NEW EQUIPMENT DIGEST

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November, 1955

Volume 20—Number 11

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CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 104

EQUIPMENT MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

PORTABLE LUBRICATOR
self-propelled by gasoline engine

Power lubrication for use anywhere in industrial plants, mining operations, airports and by fleet operators is provided by the Prime Lubricator, a self-propelled, self-powered portable lubricating unit. It is powered by a 6-hp air cooled gasoline engine and has a maximum speed just under 4 mph, suitable for normal walking. Single stage air compressor provides ample air pressure for the equipment. Lubricator is equipped with three 25-ft reels of heavy duty hose and three 120-lb drums of lubricant. Turning radius is 33 in. Made by **Aro Equipment Corp.**, Erie St., Bryan, O.

▲ For more details circle NED-1 L5 on enclosed inquiry slip ▲

ROTARY MILLING TABLE
top tilts from 0 to 90 degrees

Palmgren No. 84 tilting rotary index milling table incorporates rotary feed and two cross slides in addition to the tilting features which enables setting at any angle from 0 to 90 degrees in a vertical plane. It has an 8-in. top and a rotary indexing dial calibrated in 3-minute intervals. Center of top plate is bored for a 1½-in. locating plug. Two ⅝ x 1⅛-in. T-slots cross at the center. Cross slides travel 4¼ in. at right angles. Base is 9¾ x 5 in. and has ⅝-in. keyways for machine mounting. Made by **Chicago Tool & Engineering Co.**, 8378 S. Chicago Ave., Chicago 17, Ill.

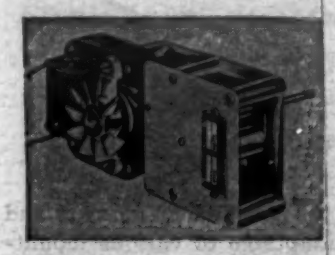
▲ For more details circle NED-2 L5 on enclosed inquiry slip ▲

GAP FRAME PRESSES
upright and inclinable types

Work involving long progressive dies, multistation dies, automatic feeds and drawing operations can be produced on redesigned line of Niagara gap - frame double-crank presses. They are built in upright (series B) and open back inclinable (series BI) types, the latter illustrated. Standard capacities are 45 to 200 tons. A wide, welded steel box type slide, contained within the gibbing, rigidly supports the punches. Integral welded-steel stress-relieved frame resist deflection and maintains permanent alignment of bearings and slide. Made by **Niagara Machine & Tool Works**, Northland Ave. & Chelsea St., Buffalo 11, N. Y.

▲ For more details circle NED-3 L5 on enclosed inquiry slip ▲

GEARED MOTOR
for display and actuating devices



A two-pole, shaded-pole induction motor, equipped with fan for cool operation, powers this compact subfractional horsepower speed reducer or geared motor. Units are available in 1/500 to 1/75-hp ratings, with output speeds from 1 rpm and up. Basic induction motor is also available without the gear housing. Geared motor is designed for use in rotary display units, actuating devices and dispensers. Made by **Loyd Scruggs Co.**, Dept. F, Festus, Mo.

▲ For more details circle NED-4 L5 on enclosed inquiry slip ▲

BENCH MICROMETER
equipped with dial indicator

Featuring a nonrotating spindle, this indicating bench micrometer maintains close limits on small work. It can be used for measuring such items as instrument parts, wires and screw machine parts. Spindle and anvil have bores for holding measuring spindles of different shapes. Micrometer measures by 0.0001-in. directly from the dull chrome finished oversize micrometer spindle. Indicating head is graduated in 0.00005-in. with ±0.002-in. range. As a comparator it can be set without additional standards. The two tolerance hands are quickly adjusted. Available from **George Scherr Co.**, Dept. NED, 200 Lafayette St., New York 12, N. Y.

▲ For more details circle NED-5 L5 on enclosed inquiry slip ▲

MACHINERY LEVELING MOUNT
also damps vibrations and noise

This double - function machinery mount not only facilitates leveling of machinery, but also reduces transmission of machine noise, shock and vibration. Mount consists of metal plate with Isomode neoprene pad cemented to it, a threaded bolt, flanged leveling nut and lock-nut. Because of characteristics of pad, machine will not walk or creep. Pad resists attack by oil, grease and floor-washing compounds. Mounts are made in 3 x 3, 6 x 6 and 9 x 9-in. sizes and are offered in six models, depending upon which of two types of pads are used. Load ranges extend from 100 to 12,000 lb per mount. Made by **MB Mfg. Co.**, 1066 State St., New Haven 11, Conn.

▲ For more details circle NED-6 L5 on enclosed inquiry slip ▲

SELF-WRENCHING LOCKNUT
made in ¼-28 to 9/16-18 sizes

Integral lug on this type N2603 self-wrenching locknut prevents it from rotating when bolt is tightened by bracing itself against any adjacent surface. Made of steel with a cadmium plated finish, this removable fastener has a red nylon insert which provides the locking feature. Thread sizes of the six nuts in this series are ¼-28, 5/16-24, ⅜-24, 7/16-20, ½-20 and 9/16-18. Made by **Elastic Stop Nut Corp. of America**, 2331 Vauxhall Rd., Union, N. J.

▲ For more details circle NED-7 L5 on enclosed inquiry slip ▲

This will save you time...

In our continuing effort to better serve the readers of NEW EQUIPMENT DIGEST, we have revised the self-mailing Inquiry Slip (see pages 8 or 104). This new Inquiry Slip will make it easier for you to obtain additional information on products advertised or described. You will notice that it is larger than its predecessor. Its layout and typography have been improved with one goal in mind—to conserve your time.

In July of 1953, we reported to you that we had installed $130,000 worth of electronic machines to speed up the processing and forwarding of your inquiries to the manufacturers of equipment. Since then, even higher speed automated machines have been installed. Existing equipment has also been improved to provide faster service. The expense has been more than justified. The machines assure practically one-day service on your thousands of requests. Incidentally, inquiries are being received by our Reader Service department at an unprecedented rate.

It is our earnest endeavor to keep you informed of all that's new in industrial equipment, materials and processes. NED's digest of facts will save you time and money. We value your readership.

F. O. Rice

PUBLISHER

RAISE YOUR HQ HOLE QUOTIENT WITH A STANDARD Zagar GEARLESS DRILLHEAD...

12", 24-spindle drillhead.

drills any number of holes in any pattern

Drill a maximum number of holes in one pass—in any material. Holes can be as close as twice drill diameter. Zagar gearless drillheads are built as a complete unit or may be adapted to any standard drill press. Send us your part drawing and we will submit our quotation.

Write for Manual N-11.

ZAGAR TOOL, INC., 23880 Lakeland Blvd., Cleveland 23, O.

Zagar TOOLS FOR INDUSTRY and SPECIAL MACHINERY

▲ For more details circle NED-8 L5 on enclosed inquiry slip ▲

Cut installation time up to 78%...

with FREEWAY semi-precision BALL BEARINGS

Freeway bearings actually "SNAP" into place . . . cut installation time to a minimum. And once positioned, they're permanently set . . . thanks to patented features that insure perfect alignment. Designed for low RPM applications (shafts to 5/8") Freeway gives you positive anti-friction protection . . . for just PENNIES per bearing. Write for details today.

Freeway washers are precision-made to fit fast . . . reduce assembly time. And they cost LESS . . . because special dies enable us to pass substantial savings on to you! Quotations on request.

Freeway-formed stampings are blanked, drawn and trimmed in ONE operation. This exclusive processing method insures you better small parts . . . at minimum cost. The coupon will bring additional facts.

Freeway WASHER & STAMPING COMPANY

P. O. Box 1756, Cleveland 5, Ohio

Gentlemen: Please send us more facts about .....
( ) Bearings, ( ) Washers, ( ) Stampings.

Company.....

Street.....

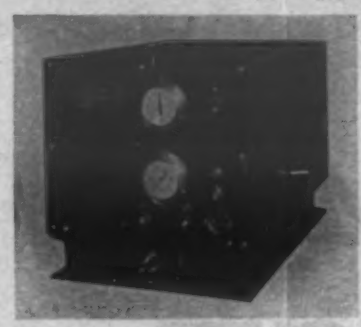
City.....State.....

Signature.....

M

▲ For more details circle NED-9 L5 on enclosed inquiry slip ▲

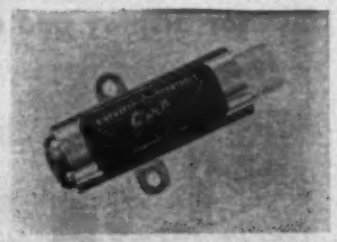
DEHUMIDIFIER
continuously supplies dry air



Input air at 120° F is dried to the equivalent dew point of −65° F when supplied at pressures of 3000 to 6000 psi and flow rates of 4, 16 and 40 cfm by three sizes of this ACE-17 dehumidifier. It dries gases of all types and can be utilized to cool liquids. Standard models operate on 110-v ac, but special units can be supplied. Unit is available in automatic or semiautomatic models. Made by **Accessory Controls & Equipment Corp.**, Dept. N, 146 Willard Ave., Newington, Conn.

▲ For more details circle NED-10 L5 on enclosed inquiry slip ▲

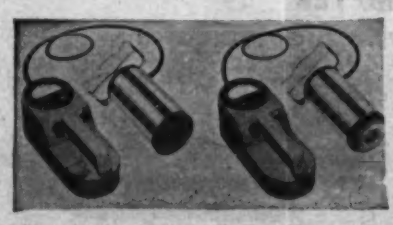
PRESSURE SWITCHES
100 to 12,500 psi range



Weighing only 4 oz, this pressure switch can be set to respond to hydraulic or pneumatic pressures in range of 100 to 12,500 psi. It will withstand severe vibration, acceleration and adverse environmental conditions. Applicable to aircraft and industrial systems, it is adaptable to various mountings or envelope specifications. Made by **Gorn Electric Co.**, Aircraft Controls Div., Dept. S, Stamford, Conn.

▲ For more details circle NED-11 L5 on enclosed inquiry slip ▲

MOISTURE CONTENT METERS
check plastic, paper insulations



Moisture content of such paper-like materials as plastics, hardboard, asbestos-cement siding and roofing, gypsum board, multiwall bags, felt and fiber products is readily determined with two improved Moisture Registers. Both are lightweight, portable electronic instruments which can be used for nondestructive spot testing. Tests are made in 3 seconds. Model K2 has spring-loaded electrodes for measuring irregular or curved surfaces, has electronic penetration of 1 in., is designed for testing rolls or stacks. Model VG2 has a large electrode for use on individual thicknesses or thin stacks and has a penetration of 1/8-in. Made by **Moisture Register Co.**, Dept. NED, Box 910, Alhambra, Calif.

▲ For more details circle NED-12 L5 on enclosed inquiry slip ▲

THER VARIABLE VOLTAGE CONTROL RECTIFIERS

RATINGS FROM FRACTIONAL TO 1000 KW

- ADAPTABLE TO YOUR SPECIAL REQUIREMENTS
- SIMPLIFIED CIRCUIT
- STEPLESS VOLTAGE CONTROL

Here's the most practical control wherever variable speed d-c motors are used. This full wave, thyratron tube, voltage control rectifier . . . famous THER quality throughout . . . can be custom-fitted to your application. Ideal for such equipment as machine tools, testing stands, materials handling, printing, etc.

Write today for details regarding your variable voltage applications.

It's THER . . . Whatever your d-c requirement

THER ELECTRIC & MACHINE WORKS

SERVING INDUSTRY FOR OVER 40 YEARS

15A SOUTH JEFFERSON STREET • CHICAGO 6, ILLINOIS

▲ For more details circle NED-13 L5 on enclosed inquiry slip ▲

"a lot of machine for the money—we even jig bore with it"

That's the kind of thing you hear about the Axelson milling machine. A lot of Axelson vertical and Universal mills are in die shops and job machine shops where the close relation between machine operation and profits is very apparent to management. From these people we hear the word, the Axelson is a money maker.

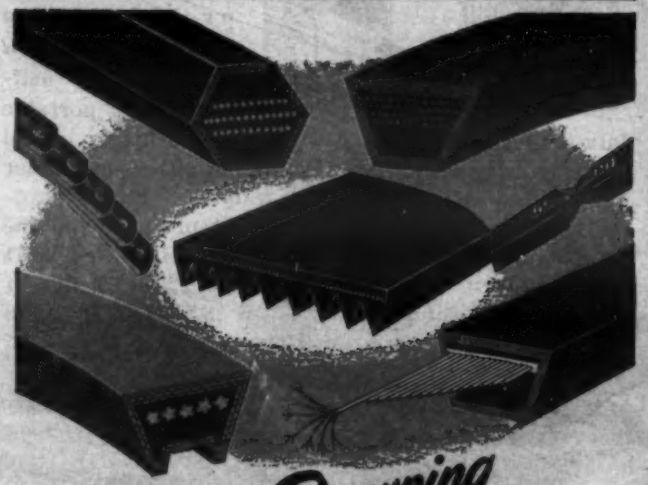
Write for catalogs on Axelson Duplex and Vertical Mills

AXELSON MILLING MACHINES

Producers of the World Famous Axelson Lathe

AXELSON MANUFACTURING COMPANY
DIVISION OF U. S. INDUSTRIES, INC.
6160 S. BOYLE AVENUE • LOS ANGELES 58, CALIFORNIA

▲ For more details circle NED-14 L5 on enclosed inquiry slip ▲



There's a Browning GRIPBELT for every purpose!

No other source offers such a wide selection of V-belts . . . from FHP to steel cable belts, including versatile Griplink and Griproll, and unique new Poly-V. These combine with Browning's variety of sheaves to form the most complete V-drive line. For every power transmission need, contact your Browning distributor. He will serve you promptly, efficiently. *Write for free catalog GC101, showing whole line.*

Browning MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY

▲ For more details circle NED-15 L5 on enclosed inquiry slip ▲

New DOWN DRAFT DUST COLLECTING BENCHES

Type B
Model 2-32B

by WOLVERINE

Open grating working surface is surrounded by downward moving stream of air . . . dust from grinding, polishing or sanding operations are pulled downward through grating . . . heavy-duty industrial viscous filters in rear compartment removes dust from air stream and axial flow fan in top of rear compartment discharges air vertically back into the room, or when required by local ordinance, discharges to outdoors through duct work. Solves the dust problem where hand grinders are used because of better dust collection due to higher velocity.

Write for descriptive bulletin, Dept. N

WOLVERINE EQUIPMENT CO.
31 MAIN ST., CAMBRIDGE 42, MASS.

▲ For more details circle NED-16 L5 on enclosed inquiry slip ▲

How Pittsburgh knotted brush construction provides

- Better Balance
- Uniform wear
- Longer Equipment life

Because of their construction, Pittsburgh "Lightning" knotted sections have *exactly the same number of wires in every knot!* As a result, you can get a brush with perfect balance—one that will wear uniformly and cause less bearing-destroying vibration in the machine that drives it!

LONGEST LIFE—FASTEST CUTTING Built for toughest applications, "Lightning" brushes are perfect for cleaning welds, removing scale or rubber, or cleaning parts where penetration brushing is needed! Write for details on the complete line of power brushes, including the popular Red Center Brush to: PITTSBURGH PLATE GLASS CO. Dept. S-11, 3221 Frederick Ave., Baltimore 29, Md.

PITTSBURGH *Power Driven* BRUSHES

BRUSHES • PAINTS • GLASS • CHEMICALS • PLASTICS • FIBER GLASS

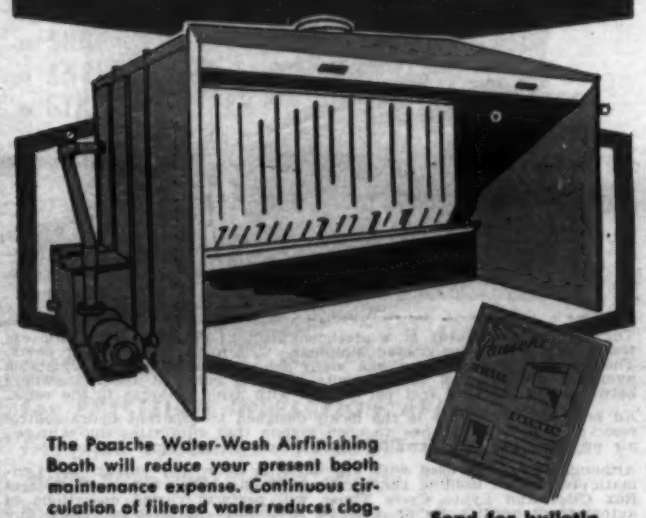
PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

▲ For more details circle NED-17 L5 on enclosed inquiry slip ▲

PAASCHE'S NEW AIRFINISHING BOOTH

that helps clean itself... as it cleans the air!



The Paasche Water-Wash Airfinishing Booth will reduce your present booth maintenance expense. Continuous circulation of filtered water reduces clogging, wear and overload on pumps and motors. Paasche's built-in sludge strainer and new lower packs helps the unit clean itself.

Send for bulletin ABE 55 for complete information.

Airbrush and Spray Equipment Since 1904

PAASCHE AIRBRUSH CO
1949 DIVERSEY PARKWAY
CHICAGO 14, ILLINOIS

DIVISION OF CLINE ELECTRIC MANUFACTURING COMPANY

▲ For more details circle NED-18 L5 on enclosed inquiry slip ▲

PROOF-TESTING *the* NEW *vacumetal mercury*

to maintain the highest standard of purity ever achieved for mercury metal!

To control the new quality standard established for this new vacumetal mercury, every bottle is thoroughly proof-tested by the mechanical shaking operation shown in the illustration. In this manner, the quality of the "delivered" metal is predetermined and maintained. Thus, the physical characteristics, so important in the fields of electronic and electric instrumentation as well as in regular laboratory use, are assured.

The new, purer metal mercury is commanding widespread interest because of the real advantages offered. These include the reduction of the normally apparent meniscus and oxidation to a point where they are virtually unobservable by the human eye. A sample for your own evaluation can be obtained at nominal cost.

METALSALTS CORPORATION
200 WAGARAW ROAD
HAWTHORNE, N. J.

▲ For more details circle NED-19 L5 on enclosed inquiry slip ▲

BELT GUIDE ROLLER
increases belt life, prevents slip

Rapid wear of drive belts caused by rubbing on fork guides is eliminated by this SKF belt guide roller which also prevents belt slip. Roller has both a roller bearing and ball bearing fitted in a sleeve, with the outer rings remaining stationary. Bearings are sealed from dust. Guide roller requires lubrication only every 20,000 working hours. Lubricant is injected through grease nipple fitted in the end of the roller. Guide rollers can be installed easily on belt forks already in service and can be used at the highest belt speeds. Made by SKF Industries, Inc., Front St. & Erie Ave., Philadelphia 34, Pa.

▲ For more details circle NED-20 L5 on enclosed inquiry slip ▲

ADJUSTABLE MOTOR MOUNT
permits two-way movement of motor

Both fractional horsepower motors and small gasoline engines are readily mounted on machines and equipment with this Freeman Universal Motor Mount. It is made in three sizes and provides means for aligning pulleys and adjusting belt tension. Motor or engine can be moved in two directions on a horizontal plane. It is finished slate gray or maroon. Made by Arco Mfg. Co., Dept. N, Box 817, Grand Forks, N. Dak.

▲ For more details circle NED-21 L5 on enclosed inquiry slip ▲

SOCKET SCREW
socket extends full length

Sizes from No. 4 wire size to 1 in. diameter are available in suitable lengths in this socket set screw, socket of which extends the full length of the screw. The through - broached socket, available in hex or multiple spline types, is symmetrical so that the screw can be wrenched from either end. Holding power is equal to that of conventional socket set screws. Use can be as set screw or locking ring. Made by Bristol Co., Socket Screw Div., 30 Bristol Rd., Waterbury 20, Conn.

▲ For more details circle NED-22 L5 on enclosed inquiry slip ▲

BIL-JAX *Tubular Steel* WORK PLATFORMS

Let Bil-Jax solve your "off-the-floor" job problems. Equipment of light-weight tubular steel is designed to give maximum access with minimum investment . . . in complete safety. Platforms and scaffolds for every purpose. Send for facts on complete Bil-Jax line.

SALES AND RENTAL OUTLETS IN PRINCIPAL CITIES

EXPORT REP.: MELVIN FINE & CO. 80 Broad St., New York 4, N.Y.

WEST COAST REP.: A. PALMER SCAFFOLD CO. 2928 San Fernando Road Glendale 4, California

Send for facts on complete Bil-Jax line.

BIL-JAX, INC. ARCHBOLD, OHIO

SCAFFOLDING • TRESTLES • HOIST TOWERS • STAGES

▲ For more details circle NED-23 L5 on enclosed inquiry slip ▲

Only $17.30

IDEAL *Electric Marker*

Cuts a Permanent Mark Into Any Surface—from Steel to Plastics and Glass

ORDER TODAY
*hardened alloy point $22.75 with diamond point
F.O.B. Sycamore, Illinois
SEND NO MONEY!
Delivery made through your nearby IDEAL Distributor

Easy to Use as a Pencil!

Dozens of cost-cutting, time-saving uses in every plant. Can be used anywhere, by anyone on any material. Codes, identifies parts, tools, jigs, etc. Cheaper than special plates, better than tags. 7200 cutting strokes a minute, adjustable for depth, make tamper-proof mark that lasts for ever.

IDEAL INDUSTRIES, Inc.
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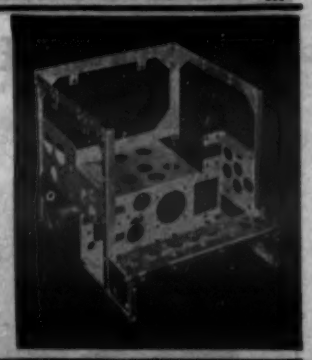
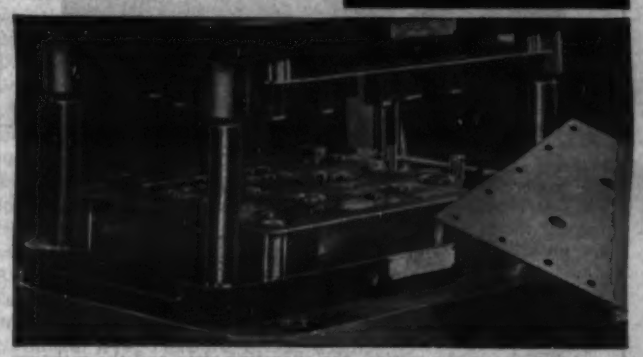
Please enter our order for the following IDEAL Electric Markers
Quantity
_____ Alloy Point @ $17.30
_____ Diamond Point @ $22.75
F.O.B. Sycamore, Illinois
Name_____
Company_____
Address_____
City_____ Zone____ State____

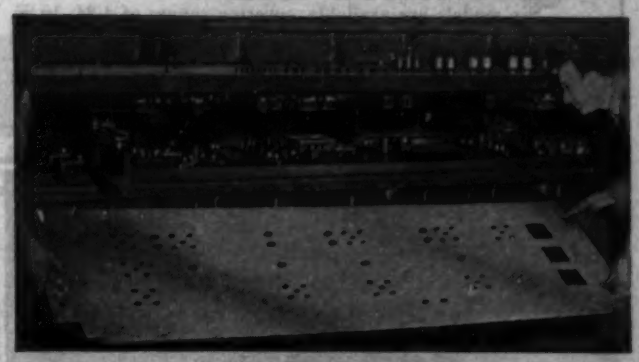
▲ For more details circle NED-24 L5 on enclosed inquiry slip ▲

OVER 2,000 PLANTS *are making up their Metal Perforating Die Sets by Whistler methods*





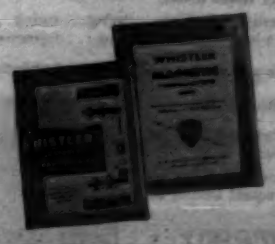
WHISTLER **MAGNETIC PERFORATING** DIES



WHISTLER **ADJUSTABLE PERFORATING** DIES

- Lower die-making costs.
- Start production quicker.
- Save work handling labor.
- Increase press production.
- Versatile in job application.
- Perforate materials to ⅛" thick mild steel.
- Combine horizontal and vertical perforating operations.
- Work in practically any size or type of press.
- All parts re-usable and interchangeable.
- Precision assured on short or long runs.
- Parts interchangeable right in the press.
- Magnetic dies assembled on templates.
- Adjustable dies assembled on Tee slot die sets.
- Save floor and storage space.
- Die investment not "tied up."

WHISTLER DIES ARE CUTTING COSTS FROM COAST TO COAST



SEE FOR YOURSELF
Without Obligation

Our *Illustrated* Catalogs show the simplicity, economy and versatility of Whistler methods. See for yourself why Whistler customers are the biggest names in industry.

S.B. WHISTLER & SONS, INC.
750 Military Road Buffalo 23, New York

▲ For more details circle NED-25 L5 on enclosed inquiry slip ▲

NEW... an advanced concept in metering small flows

The Brooks Sho-Rate "50" is a new design idea in purge meters. It offers the complete interchangeability, dependability and structural strength that's been needed for a long time.

- *Slip-out Tubes*
- *Side-plate Construction*
- *Rotatable End-fittings*

The Sho-Rate "50" Purge Meter gives all this... at a very low cost. *Send for complete facts.*

BROOKS ROTAMETER COMPANY
105 EIGHTH STREET • LANSDALE, PA.

WRITE FOR BULLETIN 135.

BROOKS and SHO-RATE are trade-names

▲ For more details circle NED-26 L5 on enclosed inquiry slip ▲

NEW EQUIPMENT DIGEST

BPA NBP

Penton Building, Cleveland 13, Ohio

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SOLVED! ANOTHER SMALL PARTS STORAGE PROBLEM

The Chicago Price Tag Company, Chicago, uses five Model J-128 "HAZ-BIN" Jr. Cabinets (total 740 drawers or 2220 compartments) to SAVE SPACE and TIME and to ORDERLY FILE tags in over 2000 different classifications.

America's most efficient companies (Ford, G.M., G.E., I.B.M., W.E., etc.) use "HAZ-BIN" Cabinets for orderly storage of small parts, bolts, nuts, drills, tools, carbide tips, buttons, thread, paper clips, labels, pins, rubber bands, stamps, films, photo supplies, negatives, fishing tackle, artists' supplies, medical supplies, marine supplies, drugs, jewelry, etc. "See-thru" plastic drawers are lifetime guaranteed.

"HAZ-BIN" Cabinets are durable and compact. They save TIME, SPACE, simplify your inventory, enhance the appearance of your shop, factory, home, office, display, counter.

FREE CATALOG

Shows 750 Different Cabinet Combinations for use in Industry, Business, Laboratory, Home.

AKRO-MILS, INC. P. O. Box 9078-K AKRON 9, OHIO

▲ For more details circle NED-31 L5 on enclosed inquiry slip ▲

TENSION GAUGE is PRE-SETTABLE

For GO/NO-GO Tests of Springs and Contact Pressures

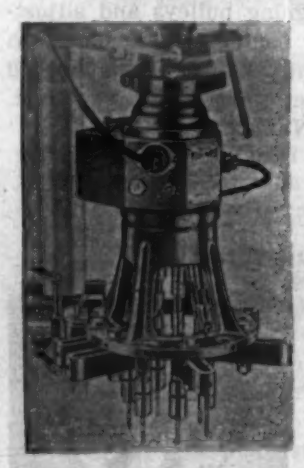
Speedy, one-hand operation and precise calibration over a range of 4 to 2500 grams, with adjustable zero setting, are the important features of G. E. C. tension gauges. Designed for GO/NO-GO checking of spring tensions or other resistive forces, these gauges permit inspection or production testing by unskilled personnel.

To use this gauge: just preset the tension by turning the micrometer knob until the pointer shows the desired tension on the scale and apply the tip of the gauge-operating strip where force is to be checked. If the force being checked matches the gauge setting, the operating strip and the resisting element will move at the same time. Attention is focused on one point only—movement at the point of contact; there are no dials or scales to be read.

Six models are available, covering ranges of 4-24, 10-80, 50-250, 100-500, 200-1600, and 500-2500 grams. For detailed descriptive bulletin and prices, write: General Electric Company, Limited, c/o Imtra Corporation (U. S. Agents), 58 Charles Street, Cambridge, Massachusetts, U. S. A.

▲ For more details circle NED-27 L5 on enclosed inquiry slip ▲

MULTIPLE TAPPING HEAD taps up to eight holes at once in semiautomatic or automatic cycle

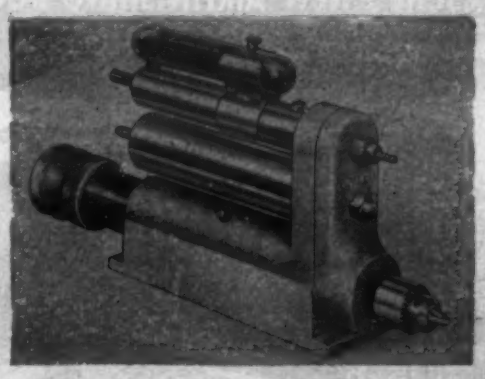


Up to eight holes can be tapped in any pattern with taps of different pitch by the Multi-Tapper multiple spindle tapping head, made to fit any drill press. An electronically controlled automatic reversing spring clutch drive enables a single drill press spindle to drive from two to eight taps in automatic or semiautomatic tapping cycles. Setting lower and upper stop limits are only adjustments.

Operator starts taps into the holes. Feed, depth and tap reversal functions are performed by the device. Use may be in cycle tapping operations with air or hand feed. Model 90 has eight spindles and 9-in. diameter tapping area, while model 50 has six spindles with 5-in. tapping area. Both models have ¼-in. spindle capacity. Made by Commander Mfg. Co., 4221 W. Kinzie St., Chicago 24, Ill.

▲ For more details circle NED-29 L5 on enclosed inquiry slip ▲

"Low Cost Per Hole" Drilling Unit—The New Lynmatic 101 Drill Head with Transparent Hydra-Control Reservoir.



The new Lynmatic 101 is a precision drilling unit, engineered for extreme versatility and rugged simplicity with only four moving parts. The air feed drilling head has many features including an adjustable hydraulic feed control that permits accurate constant feeds anywhere between stop and 200 feet per minute with rapid traverse to the work.

An outstanding feature is the newly-designed transparent hydra-control reservoir which establishes an open system that eliminates the captured air problem and also permits visual check on hydraulic fluid.

Although it can be used with any three or four way valves, the Lynmatic 101, when used in conjunction with the Lynco automatic Control Box CB-1 and Lynco Cycle Timer will perform varied operations to automatically drill holes properly up to ¼-inch diameter in almost any material.

Sides and bottom are machined square and parallel to the spindle to close tolerances to simplify alignment. A base width of 2 inches permits drilling to 2-inch centers with a 2-inch stroke.

Lynmatic 101 is known as "The Low Cost Per Hole" drilling unit because its low original cost and versatility allows the purchase price to be amortized on most original short run jobs.

Manufactured by LYNCO, INC. Los Angeles, California
National Distributors BURKLYN COMPANY, 3429 Glendale Blvd., Los Angeles 39

▲ For more details circle NED-32 L5 on enclosed inquiry slip ▲

CHROMALOX ELECTRIC RADIANT HEATERS provide uniform, high intensity *far-infrared* heat . . . infinitely variable up to 700°F.

You get these advantages:

High intensity, "color blind" radiation in longer wave lengths . . . which are absorbed with almost equal speed by all colors, textures and surfaces.

Infinitely variable "dialed heat" . . . adjustable from zero to 100% range . . . varies the heat output to match conveyor speeds, work sizes and humidity.

Space saving, non-breakable, all metal units.

Easily and economically installed, operated and maintained.

For these uses:

Heating . . . baking . . . drying . . . curing . . . pre-heating . . . dehydrating . . . degreasing

Let the Chromalox Sales-Engineering staff solve your heating problems . . . electrically.

Write today for your copy of Bulletin CS-604

. . . for information on how Chromalox Electric Radiant Heaters can reduce costs and increase production in your plant.

For information on complete line of Chromalox electric heaters, elements, thermostats, contactors, switches—request Catalog 50.

Edwin L. Wiegand Company
A-4446 7509 Thomas Boulevard, Pittsburgh 8, Pa.

See other ad on p. 75

▲ For more details circle NED-28 L5 on enclosed inquiry slip ▲

Often you can
DO IT YOURSELF
at a Saving!

Make your own conveyor layout and installation! In many instances this is possible and at a saving to you, with Logan standardized conveyors known as Adapto Units. These units can be bought virtually "off the shelf", are shipped promptly and are low in price. Write for Adapto Booklet.

Logan Conveyor
ADAPTO UNITS

LOGAN CO.
205 Cabel St.
Louisville 6, Ky

▲ For more details circle NED-30 L5 on enclosed inquiry slip ▲

NEW! PVC EJECTORS

FOR DOUBLE PIPE JET PUMP SYSTEMS

The first real advance in Ejectors in Many years!

IMPORTANT ADVANTAGES

- Made of rigid unplasticized Polyvinyl Chloride
- Ideal for use with flexible plastic or rigid pipe. Threaded, easily attached to either
- One-sixth the weight of metal types
- Non-toxic, No algae or slime build-up
- No rust, No scale, Trouble free.

Write now for Literature

Eastman Atlantic Mfg. Co.
Box 25
WILMINGTON, DELAWARE

▲ For more details circle NED-33 L5 on enclosed inquiry slip ▲

HOW R-B PUNCHES OPERATE

R-B standardized punches and die buttons are inserted in their retainers with a simple push and a twist.

Punches and die buttons are instantly removed by inserting a tanged tool in retainer hole to release the locking ball.

Each R-B retainer is equipped with a spring loaded locking ball which engages the recessed portion of standard and special R-B punches and die buttons. Locked punches and die buttons are always accurately aligned—no additional keying is required.

Use R-B Engineering Service for Your Tough Piercing Problems.

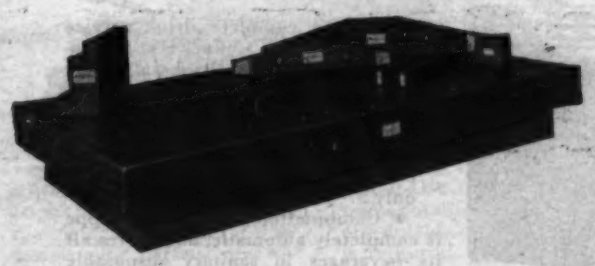
RICHARD BROTHERS PUNCH DIVISION
ALLIED PRODUCTS CORPORATION
DEPT. 76 • 12629 BURT ROAD • DETROIT 23, MICHIGAN

Also Produced in OTHER ALLIED PLANTS
SPECIAL COLD FORGED PARTS • STANDARD CAP SCREWS
PRECISION GROUND PARTS • SHEET METAL DIES MADE OF FERROUS ALLOYS, ZINC ALLOYS OR PLASTICS

▲ For more details circle NED-34 L5 on enclosed inquiry slip ▲

COLLINS
MICROFLAT®
BLACK GRANITE

- SURFACE PLATES
- ANGLE PLATES
- STRAIGHT EDGES
- LAYOUT PLATES
- PARALLELS
- T-SLOTTED PLATES



for PRECISION INSPECTION APPLICATIONS

Designed by Collins MICROFLAT Company and made from the highest quality Black Granite, these precision granite Plates and Accessories offer the user unfailing accuracy and service at a minimum of cost.

Non-Warping ★ Non-Deflecting ★ Non-Rusting

Write for bulletins describing these products in detail.

COLLINS MICROFLAT COMPANY, INC.
2326 East 8th Street • Los Angeles 21, California

▲ For more details circle NED-35 L5 on enclosed inquiry slip ▲

12¢ or 4¢ to make this metal part?

This is a door handle tube, but it might be any of a hundred metal components or products. A big lock manufacturer was making it in his own plant at a cost of 12¢—until A. K. Tool, specialists in metal parts fabrication, undertook to turn it out for him for just 4¢.

Many of the nation's foremost manufacturers have found it cheaper, simpler to leave fabrication of their metal components to A. K. Tool Co.

Why not investigate—today—the production facilities and know-how that may effect substantial savings in your metal parts production?

Write or phone

Telephone
WEstfield 2-7300

A. K. TOOL CO., INC.
Highway No. 22 • Mountainside 5, New Jersey

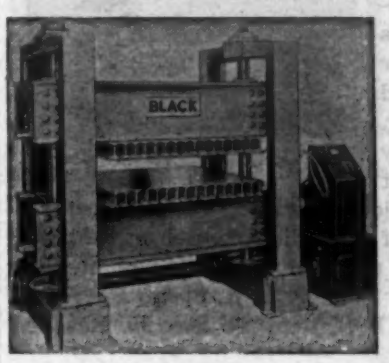
▲ For more details circle NED-36 L5 on enclosed inquiry slip ▲

RUBBER TIRED WHEEL
rolls and swivels under heavy load

Design of this self-energizing rubber tired industrial wheel utilizes a molded rubber tread bonded vertically between two steel disks. By compressing the two disks, an outwardly displaced and inflated tread is produced that supports extremely heavy loads. This design allows tread to resist flattening under heavy loads, making rolling and swiveling virtually effortless. Vertically bonded surfaces will not break loose. Made by **Roll Rite Corp.**, 801 Jefferson St., Oakland 7, Calif.

▲ For more details circle NED-37 L5 on enclosed inquiry slip ▲

LAMINATING PRESS
has 48 x 48-in. screw-drive platens



All flat materials requiring pressures in the range of 125 psi are accommodated in this electric laminating press which has a daylight opening of 2 to 16 in. Pressing action of the 48 x 48-in. platens is governed by electrically driven vertical screws. Electric motor control is supplied with improved safety devices and a multiple plate clutch. Made by **Black Brothers Co.**, 811 Fourth St., Mendota, Ill.

▲ For more details circle NED-38 L5 on enclosed inquiry slip ▲

QUICK OPENING VALVE
for steam, air, hot water, gases

Made of steel, this quick opening valve for general industrial and marine uses is designed for service at 600 psi at temperatures of 800° F and 1200 psi at 100° F. Use can be on steam, hot water, air and gases. Design permits maximum flow, and construction makes possible fast, positive openings and closures at pressures to 1200 psi water-oil-gas. Made by **Klinger Corp. of America**, 93 River St., Hoboken, N. J.

▲ For more details circle NED-39 L5 on enclosed inquiry slip ▲

STOP Vibration . . .

Inside any Machine: with rubber (or synthetic) insulation permanently fastened to both inner and outer sleeves . . . *designed and built to your specifications.*

Under any Machine: with Vibra-Levelers, to isolate the vibration and shock that can't be otherwise stopped.

Align shafts with Silent-Lign pillow blocks —from stock or built to specifications.

BUSHINGS from Bushings, Inc. are used on leading appliances, farm machines, machine tools, etc.

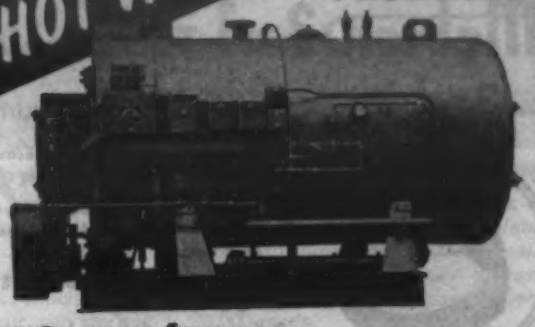
Ask for suggestions and quotations now without obligation.

Bushings, Inc.

COOLIDGE HIGHWAY
AT 14 MILE ROAD
ROYAL OAK, MICH.

▲ For more details circle NED-40 L5 on enclosed inquiry slip ▲

GET YOUR **STEAM and HOT WATER** . . . from a LOW COST PRODUCER!



Continental AUTOMATIC BOILER

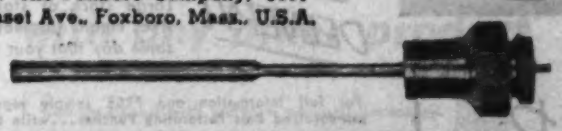
. . . generates the steam and hot water you need with low fuel costs and very little maintenance. It is highly efficient—over 80% guaranteed—because of its unique "spinning gas technique". Hinged doors can be opened by one man in less than ½ hour, so there's brief shut-down for cleaning and inspection. Simple, functional design and quality workmanship assure long service life. Sizes 20 to 500 hp; 15 to 250 psi. Gas, oil or combination fired. Write for Bulletin BE3-4.

Continental **BOILER ENGINEERING** *and Supply Company, Inc.*
AUTOMATIC BOILERS
6 Manavon St. • Phoenixville, Pa. • Phone 5832

▲ For more details circle NED-41 L5 on enclosed inquiry slip ▲

NEW "Lifetime" Dial Thermometers

You're *always* sure of accurate temperature readings with this new Foxboro "Lifetime" Dial Thermometer. Welded "one-piece" bulb and connecting capillary tubing of 316 Stainless Steel prevent corrosion from liquids, fumes or vapors. Needs no protective tubing. Tightly sealed 5" aluminum alloy case. Available in standard ranges to 1000°F. Easy-to-read scale 12" long. Write for details. The Foxboro Company, 6611 Neponset Ave., Foxboro, Mass., U.S.A.



FOXBORO DIAL THERMOMETERS

▲ For more details circle NED-42 L5 on enclosed inquiry slip ▲

ADAMS creates a Cyclone to give you Drier Compressed Air

The Adams Aftercooler and Cyclone Separator are a perfect team. The highly efficient aftercooler condenses more moisture . . . the separator's unique design creates a cyclone to remove more of the condensation.

Write today for all the facts . . . Get your copy of Bulletin 711.

R. P. ADAMS CO., INC. 227 E. PARK DRIVE BUFFALO 17, N. Y.

▲ For more details circle NED-43 L5 on enclosed inquiry slip ▲

You get

DEPENDABLE

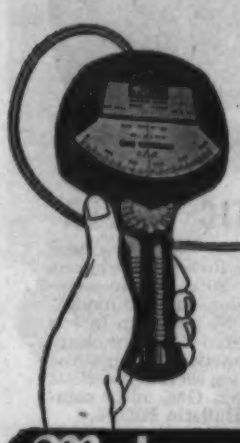
and

READABLE RPM & FPM

speed measurements with the new

Metron 3 in 1 Tachometer

...3 "sliding-scale" ranges in 1 instrument.



- It's more *dependable* because of simpler operating principle.
- It's more *readable* because you can see only one set of scale numbers at a time.
- You switch easily to any of 3 "sliding scale" ranges.
- You cannot damage by overspeeding.
- You get steady readings—electric cable prevents instrument vibration.

Control quality, increase production and protect machines—operate your equipment at the ONE BEST SPEED measured frequently and easily with the Metron 3 in 1.

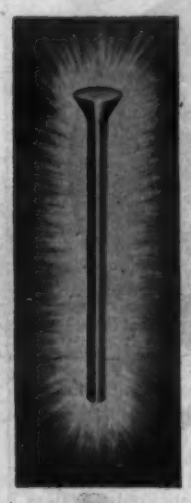
Request Bulletin 103 for complete details.

Metron INSTRUMENT CO.
436 Lincoln St., Denver, Colorado
DISTRICT OFFICES • NEW YORK • CHICAGO • LOS ANGELES

▲ For more details circle NED-44 L5 on enclosed inquiry slip ▲

Ross STANDARDIZED PUNCHES

YOURS AT 1/3 THE COST!



HERE IS A STANDARDIZED, CENTERLESS GROUND PERFORATING PUNCH THAT SPELLS

IMMEDIATE SAVINGS!

Here's how!

ACCURACY! Centerless ground to within ± .0002" in diameter!

QUALITY! A special high carbon steel insures tough, lasting durability!

ECONOMY! Standardization means smooth, high speed turnout . . . at ⅓ of your own production costs!

DELIVERY! Large stock of standard sizes means shipment the *same day* that your order is received!

For full information and FREE sample regarding *standardized* Ross Perforating Punches...write *today!*

ROSS EQUIPMENT CO., INC.
1519 Lyell Ave. Rochester 6, N. Y.

▲ For more details circle NED-45 L5 on enclosed inquiry slip ▲

Increase the Life of Your Industrial Floors 5 times!

KLEMP **HEXTEEL**

Steel Floor Armor

Hexteel heavy duty steel floor armor creates a steel surfaced floor capable of withstanding maximum loads. Easily installed in fresh concrete; easily installed for resurfacing wood or concrete floors with mastic or concrete. Prolongs the life of your floor by at least a 5-to-1 ratio!

KLEMP METAL GRATING CORP
6601 South Melvina Avenue
Chicago 38, Illinois

Send us data on your floor and load conditions today! We will reply with price estimate for your job! (Write for free "Data and Specification Manual!")

Gentlemen: NED
Kindly send me a copy of your "Data and Specification Manual."
Name
Firm
Address
City Zone State
Phone

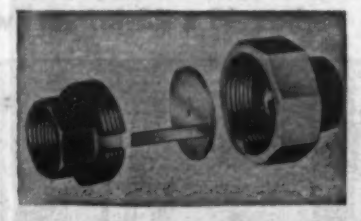
▲ For more details circle NED-46 L5 on enclosed inquiry slip ▲

EXPANDED METAL CONTAINER
for dipping, degreasing and storage

Small parts can be dipped, degreased, stored and transported in the RANtote expanded metal basket container. Of rigid structural design, it is available in various sizes. Types available are single hopper, front stacking type; double hopper, front stacking type; closed end stacking type; and 877 nesting-stacking type. Made by **Randolph Industrial Equipment Co.**, Dept. NED, 9559 W. Grand Ave., Franklin Park, Ill.

▲ For more details circle NED-47 L5 on enclosed inquiry slip ▲

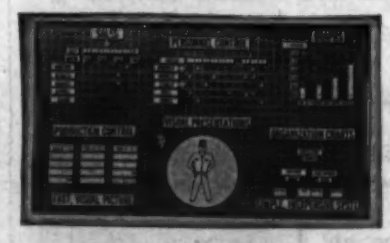
ORIFICE UNION
orifice plate is tabbed



Errors in orifice plate identification are eliminated with use of this tab orifice union for instrumentation and process control piping. Orifice size is plainly stamped on a tab that protrudes through a slot in the end piece of the union. Tab is integral part of the stainless steel orifice plate which can be easily removed when change in flow conditions is desired. Made by **H. K. Porter Co.**, Watson-Stillman Fittings Div., Dept. N, Box 95, Roselle, N. J.

▲ For more details circle NED-48 L5 on enclosed inquiry slip ▲

VISUAL CONTROL BOARDS
employ magnetic elements as needed



Visual control of business operations is facilitated by Magne-trol visual control boards, available with a variety of magnetic visual elements to suit the user's needs. These include Alnico magnets of various colors and sizes, magnetic card holders, large supporting units for pictorial presentation, acetate tape for maps and charts, graph paper, colored plastic graph bars, identification stickers and straight and curved magnetic arrows. Standard boards measure 24 x 36 in. and are made of magnetic steel bonded to Masonite. A trial kit, basically a Magne-trol in miniature, is offered to help prospective user see if Magne-trol can be applied to his needs. It is available for $4.95 from **Methods Research Corp.**, 459 Mosel Ave., Staten Island 4, N. Y.

▲ For more details circle NED-49 L5 on enclosed inquiry slip ▲

REGULATED DC POWER SUPPLIES
for varying or heavy "pulse" loads

Complete design and assembly service on dc power supplies is now available from Sola Electric Co. One unusual type of power pack combines Sola Constant Voltage Transformers, high capacitance (no choke) filters, and germanium rectifiers for high output-voltage stability in the face of varying and/or heavy "pulse" loads.

Typical Sola germanium dc power supplies provide:

- ±1% or less output voltage change with ±15% line voltage variations.
- Minimum output voltage change with wide, rapid load changes.
- High, short-time overload capacity without damage to components.
- Ripple within approximately ±1%.

Other power supplies available to order using electronic and selenium as well as germanium rectifiers, and conventional filter sections.

For further information on Sola dc power supplies, write for Bulletin 35K-CV-223. Made by **Sola Electric Co.**, 4633 West 16th Street, Chicago 50, Illinois.

▲ For more details circle NED-51 L5 on enclosed inquiry slip ▲

Employees Appreciate Apco's Combination Coffee-SodaShoppe

INSTALLED AT NO COST TO YOU!

- Offering a complete drink service comprising Hot Coffee, Hot Chocolate, and Ice Cold Drinks available both carbonated and non-carbonated, this remarkable modern 1956 model machine replaces the services and capacities of three older type machines, yet requires a floor space of only 27½" x 24½"!
- Combination Coffee-SodaShoppe is completely automatic, and serves all its beverages in sanitary disposable paper cups. Machine can serve 12 drinks per minute or 720 employees per hour without refilling.
- This machine will be installed FREE—on a liberal profit sharing arrangement—on or near the work area to save "coffee break" time.
- Write today to have an authorized Apco operator call (no obligation to you) and explain how you can have the Combination Coffee-SodaShoppe installed, maintained and serviced at no cost to you.

APCO, INC. 1740 Broadway (at 56th St.) N. Y. 19, N. Y. Plaza 7-3123
A Subsidiary of United States Hoffman Machinery Corp.

▲ For more details circle NED-52 L5 on enclosed inquiry slip ▲

"Victor" METAL FITTINGS
***For Better Connections on* PLASTIC PIPE**

Made exactly for Plastic Pipe Sizes. Assure easily-made, efficient, durable connections on every type of installation. Electroplated steel or Brass. *Ask your Distributor, or write for illustrated folders.*

ADAPTERS ELLS
COUPLINGS TEES
WELL-SEAL ELLS and PRIMING TEES • VENTURI JET ADAPTERS
UNDERGROUND SPRINKLER ELLS AND TEES • WATER MAIN ADAPTERS, ETC.

"MULCONROY *Starts...* WHERE OTHERS *Stop!*"

MULCONROY COMPANY Since 1887
5331 JEFFERSON ST., PHILADELPHIA 31, PA.

▲ For more details circle NED-50 L5 on enclosed inquiry slip ▲

NEW Variac Low-Priced Speed Controls for 1 and 1½ hp D-C Motors on A-C Lines

In substituting a drum-type controller switch for the more expensive magnetic contactors for the START-STOP-REVERSE functions in the popular larger-size G-R Motor Speed Controls, material reduction in price results.

The control illustrated is the Type 1704-B for 1 hp d-c motors (Type 1705-B for 1½ hp motors same in size and appearance). The so-called stripped-down models are identical with the unit illustrated except that no control switch is provided.

These low-priced, simplified and convenient controls are described in the new VARIAC Motor Speed Control BULLETIN. Write for a copy.

GENERAL RADIO Company

275 Massachusetts Avenue, Cambridge 39, Massachusetts, U.S.A.

90 West Street NEW YORK 6 • 8055 13th St., Silver Spring, Md. WASHINGTON, D. C.
1150 York Road, Abington, Pa. PHILADELPHIA
920 S. Michigan Ave. CHICAGO 5 • 1000 N. Seward St. LOS ANGELES 38

▲ For more details circle NED-53 L5 on enclosed inquiry slip ▲

FIRST ALL-NEW PIPE INSULATION IN 60 YEARS

Write for free 8-page brochure

Gustin-Bacon SNAP*ON is the new one-piece molded glass fiber insulation for heated and chilled piping. Snaps on quickly . . . single seam closed by staples, wire or bands. K Factor is .23 at 100° F! SNAP*ON is four to ten times lighter than other pipe insulation. Dustfree, pleasant to handle, SNAP*ON is easy to cut with a knife, insoluble in water, won't break or crumble, and is as permanent as glass itself. By far the easiest pipe covering you can put on today . . . and application savings are remarkable. Available plain or with jackets in varying thicknesses, in sections 6' and 3' long. Sizes ¾"-33". For new 8-page brochure, write **Gustin-Bacon Manufacturing Company, 262 West 10th Street, Kansas City, Mo.** Advt.

▲ For more details circle NED-54 L5 on enclosed inquiry slip ▲

VAC-U-LIFT — is the answer to handling non-ferrous metals or non-metallic materials plus surface protection on items such as aircraft skin materials.

VAC-U-LIFT — is a positive, safe method of lifting, moving and handling heavy or bulky materials and objects.

VAC-U-LIFT — efficiency is not effected by grease, oil and other protective materials.

VAC-U-LIFT — is engineered and built to do specific jobs —it will handle loads up to 2800 lbs. on each pad with ample safety factor.

VAC-U-LIFT — is a complete self-contained unit — only one outside electrical source is required.

VAC-U-LIFT — is used with an overhead crane, lift truck or hoist.

VAC-U-LIFT — has proved itself in many of America's largest factories.

VAC-U-LIFT—has many other features that will save time and handling expense for you.

Send us your problem or write for bulletin.

BLAKESLEE MFG. CO., INC.
SALEM, ILLINOIS

▲ For more details circle NED-55 L5 on enclosed inquiry slip ▲

CHECK VALVE
designed for hose swivels

Hard wear resistant bronze is used in construction of the heavy duty No. 9 hose swivel check valve, developed for service where hose is subjected to pulling stresses. It is sealed with an O-ring. Swivel tail and body are held together with a lock wire. Valve eliminates twisting and kinking. Its check valve prevents draining of the hose when flow is shut off. Size is 1¼ x 1¼ in. Made by **OPW Corp.,** Dept. NED, 2735 Colerain Ave., Cincinnati 25, O.

▲ For more details circle NED-57 L5 on enclosed inquiry slip ▲

SOFT LEAD PENCIL
holds point for long use

This Grade 1½ soft pencil which will hold its point for extensive use is designed for swift memo writing with high visibility on office papers. Softer and blacker than the Grade 2 pencil, yet longer lasting than the Grade 1, the new Mirado pencil writes boldly on onion skin and newsprint without tearing. Made by **Eagle Pencil Co.,** Dept. N, 703 E. Thirteenth St., New York 9, N. Y.

▲ For more details circle NED-58 L5 on enclosed inquiry slip ▲

TRACTOR TRAILER
in single and tandem axle models

Speedy hauling of industrial equipment and fully rigged construction tractors is facilitated by the Haulette tractor trailer, offered in single and tandem

axle models. Heavy gage welded construction and low center of gravity assure easy towing and eliminate sidesway. Four-wheel tandem model 12001 shown is offered in 10,000 lb capacity with 7.50 x 15, 8-ply tires and in 13,000 lb capacity with 7.50 x 15, 10-ply tires. Single axle model 12000 is offered in 5000 and 7000 lb capacities with the same respective tires. Drive-on ramps facilitate quick loading and unloading of tractor. Made by **Fayette Mfg. Co.,** Dept. 55, Fayette, O.

▲ For more details circle NED-59 L5 on enclosed inquiry slip ▲

Conveyors Speed Production At Paper Mill

In this paper mill woodyard, a daily supply of 1300 cords of pine logs is unloaded from railroad cars and trucks. Two Webb chain conveyors take logs directly to chippers, while third chain conveyor carries logs to chippers or storage stacker shown. Stacker, which is approximately 300 feet long and rises 80 feet in the air, can store up to 30,000 cords.

Additional Webb conveyors automatically remove chips from storage bins and carry them to digester, convey bark to storage or boiler house, transport coal to crusher and boilers. Within the mill, paper rolls 6 feet in diameter and 10 feet long are carried on conveyors through final production to shipping or storage.

JERVIS B. WEBB CO.
Specialists in Custom Conveyor Systems
8921 ALPINE AVENUE • DETROIT 4, MICHIGAN
Offices and Representatives throughout the World
FACTORIES: DETROIT • LOS ANGELES • HAMILTON, CANADA

▲ For more details circle NED-60 L5 on enclosed inquiry slip ▲

WATERLESS HAND CLEANER
with any other product

1. Can be rinsed with water – no soap necessary.
2. Does not leave sticky or oily residue on hands.
3. Contains no ammonia, halogenated or aromatic (ring) solvents.
4. No free alkali – pH 7.
5. Contains lanolin.
6. Temperature tolerance without separation or melting from 0°F to 140°F.
7. Fast liquification on application.
8. No dehydration of skin—leaves hands soft and smooth.
9. Protects natural acid mantle of skin (pH 6).
10. Guaranteed satisfactory performance comparable to other PLY Products backed by 25 years of experience.

YOU PAY NO PREMIUM PRICE FOR PLY QUALITY

AVAILABLE IN POUNDS – QUARTS – GALLONS

SEND FOR FREE, LIBERAL SAMPLE TODAY!

FIRM NAME _____
Address _____
City _____
State _____
Attention of _____
Title _____

MILBURN COMPANY DETROIT 7, MICHIGAN
MANUFACTURERS OF
PLY SKIN PROTECTION • PLYGLOV PLASTIC COATED GLOVES
PLY GARB CHEMICAL RESISTANT CLOTHING

▲ For more details circle NED-61 L5 on enclosed inquiry slip ▲

Ship your product in the pillowed protection of Armour Hairflex!

Springy curled hairs locked in latex rubber absorb even the hardest in-transit shock and vibration!

Your product is safely on its way when it's shipped in HAIRFLEX. And no matter what shape your product is—square, round or irregular—it can be shipped in this pillowed protection.

HAIRFLEX comes in sheets and rolls of various sizes, thicknesses and densities, or Armour will design and die-cut a special pack to fit any product.

So save time and labor in your shipping room. And send your product in pillowed protection—HAIRFLEX protection! Mail this coupon for further information and free samples. Do it today!

ARMOUR *Curled Hair Division*

Armour and Company • North Benton Road • Alliance, Ohio

MAIL THIS COUPON TODAY!

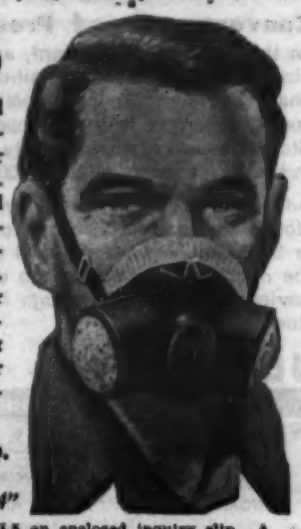
Armour and Company, North Benton Road, Alliance, Ohio
Please send me: ☐ A Free Sample of HAIRFLEX
☐ Booklet—"Pillowed Packaging"
☐ Pack specifications and cost estimate for my product (description enclosed).

Name _____ Title _____
Firm _____
Address _____
City _____ Zone _____ State _____
N11

▲ For more details circle NED-56 L5 on enclosed inquiry slip ▲

Nose! Throat! PARCHED? DUSTY?

YOU NEED . . .
Water-cooled
DUPOR No. 20



Double sponge filters, saturated with water before wearing, provide cool breathing even under hot, dusty or smoky conditions. Paint shops, foundries, steel mills, chemical labs, oil refineries, etc. have used and recommended this respirator for years. Regardless the industrial dust or fume hazard, here is an individualized air-conditioning unit that makes breathing safe for every worker. Get details! Sample sent $2.50 postpaid.

H. S. COVER, SOUTH BEND, IND.
P. O. Box # 2508
"Respirators for Industry since 1894"

▲ For more details circle NED-77 L5 on enclosed inquiry slip ▲

IT ONLY TAKES 2 . . .
RULE 41 AMENDED TO ALLOW
2-STRIP CENTER-SEAM SEALING!
CUT COSTS UP TO 2/3 WITH
Filament Reinforced Sealing Tapes
And The FAMOUS
DERBY
32-T

The first important closure method change in 40 years! . . . now use 2 strips of tape for all shipments! The Derby 32-T especially designed to dispense all brands of tough filament reinforced tapes quickly, easily, accurately!

Cut Your Shipping Room Costs!
Write now, Dept. NED for free booklet about 2 strips and the Derby 32-T

DERBY SEALERS, INC.
DERBY, CONNECTICUT

▲ For more details circle NED-78 L5 on enclosed inquiry slip ▲

Punch with a PACIFIC

Mathews Conveyor Co. says -

"Our 300 ton Pacific Hydraulic Press Brake has been in operation for three years. We like it for its flexibility and because it has been trouble free. As an example, we gang-punch up to forty 7/16" hex-holes in 3/16" channel – and also a 1⅛" hex-hole in 1" steel plate. We recommend the "PACIFIC" highly to other shops."

PACIFIC INDUSTRIAL MFG. CO.
949 49TH AVENUE • OAKLAND, CALIF.

▲ For more details circle NED-79 L5 on enclosed inquiry slip ▲

TAPPED YOKES
in plain and threaded types

Wide range of sizes in both plain and theaded types is offered in line of tapped yokes. Particularly applicable to threaded or tapped linkage, yokes are forged with holes reamed and faced-off parallel inside and outside of yoke-ends. Standard size yokes are available from stock. Made by **Jergens Tool Specialty Co.**, Dept. NED, 712 E. 163rd St., Cleveland 10, O.

▲ For more details circle NED-80 L5 on enclosed inquiry slip ▲

FLEXIBLE COUPLINGS
compensate for shaft misalignment

Taper-Lock chain type flexible couplings allow sufficient relative movement between the hubs to accommodate slight angular and parallel shaft misalignment. Chain is double-width precision type conforming to ASA specifications. Quick disconnecting of shafts is possible by removing the one coupling pin and unwrapping chain from hubs. Sprocket teeth are accurately cut and hardened. The Taper-Lock bushings, available in desired sizes without reboring, simplify installation on full size or normally undersize shafts. Made by **Dodge Mfg. Corp.**, 600 S. Union St., Mishawaka, Ind.

▲ For more details circle NED-81 L5 on enclosed inquiry slip ▲

INTEROFFICE TELEPHONE SYSTEM
offers loud speakers, voice paging

Interoffice telephone communication combined with two-way loud speaker station, voice paging, conference circuit and loud bell signals for noisy areas is provided by the Direct-A-Call two-to-ten station telephone system. The system power supply operates from standard electrical outlet without batteries or tubes. Telephone can be used either on top of, or mounted on side of desk and occupies only 4 x 6-in. space. Color-coded wires leading from power supply are attached to the telephones at their desired location. All connections can be made with screwdriver. Made by **Connecticut Telephone & Electric Corp.**, 95 Britannia St., Meriden, Conn.

▲ For more details circle NED-82 L5 on enclosed inquiry slip ▲

SAVINGS in STEEL
NOW POSSIBLE WITH THE NEW
Alumicoat
Molten Aluminum Coating Process

In many cases, expensive high alloy strategic steels may be replaced with low alloy steels which have received the ALUMICOAT Molten Aluminum Coating Process. Under high temperature conditions, these low alloy steels would ordinarily oxidize and scale, but after the application of the ALUMICOAT Process, they have proven superior to strategic alloy steels.

This table showing ALUMICOAT protection, is a factual report of the protective capacities inherent in the application of this process to different metals at different conditions.

TABLE SHOWING ALUMICOAT PROTECTION

Steel Samples	Temp °F	Time hrs.	Change in Weight*
WITHOUT ALUMICOAT			
18-8 Chromium Nickel	1,350	24	-17.0%
25-20 Chromium Nickel	1,350	4	- 8.3%
27% Chromium Steel	1,350	24	- 8.4%
WITH ALUMICOAT			
Plain Steel	1,350	192	+ 0.1%
18-8 Chromium Nickel	1,350	192	+ 0.1%
Plain Steel	1,700	48	+ 0.3%
18-8 Chromium Nickel	1,700	48	0.0%

*After corrosion scale was tapped off.

The Alumicoat Process has been successfully applied to Jet Aircraft Components, Petroleum Refinery Equipment, Exhaust Manifolds, Diesel Engine Components, etc. Full details of the Alumicoat Process will be furnished upon request.

ARTHUR TICKLE ENGINEERING WORKS, INC.
21-B Delevan Street Brooklyn 31, N. Y.

▲ For more details circle NED-84 L5 on enclosed inquiry slip ▲

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This little book saves time and money
REVISED EDITION!
OVER 4000 TYPES OF CASTERS & WHEELS FOR EVERY USE!

DARNELL CASTERS & WHEELS

All types of rubber treads—soft medium and hard—for smooth operation on all kinds of floors. Featuring Neoprene rubber treads - resistant to oxidation, oils and waxes as well as being unaffected by most chemicals - expertly compounded to Darnell standards.

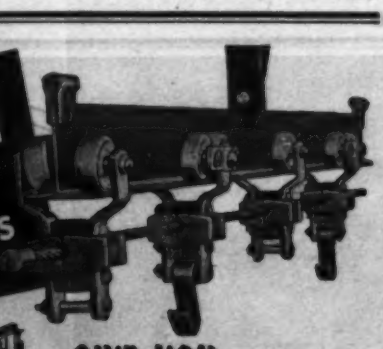
All casters, whether steel or rubber tread, available in swivel and stationary models with various top plates, stems and fittings for any type application.

DARNELL CASTERS Always SWIVEL and ROLL

DARNELL CORPORATION, LTD.
DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
60 WALKER STREET, NEW YORK 13, NEW YORK
36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

▲ For more details circle NED-85 L5 on enclosed inquiry slip ▲

BUSCHMAN CABLE CONVEYORS



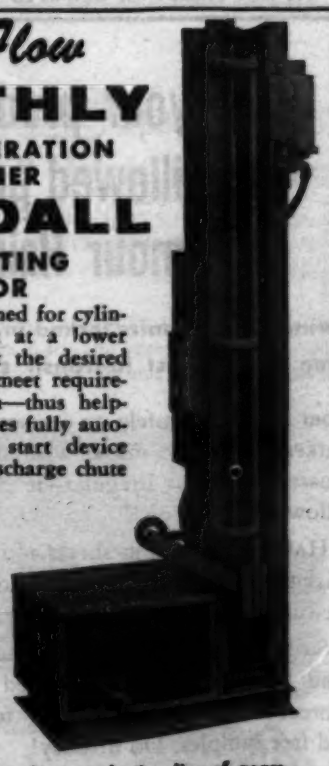
GIVE YOU...
BETTER PERFORMANCE
GREATER VERSATILITY
LOWER COST OPERATION

It's a fact . . . Buschman Cable Conveyors provide superior performance in today's overhead cable conveyor applications. Selection of pre-engineered designs for transporting products or parts through production processes or assembly operations. Lightweight all-bolted construction simplifies erection and makes future expansion or rearrangement rapid and economical. Learn how Buschman Cable Conveyors will do your job at lower cost. Write today for Catalog No. 40.

PRODUCE MORE . . . FOR LESS
Buschman Conveyors
C-525-EWB
THE E. W. BUSCHMAN COMPANY
4482 Clifton Avenue • Cincinnati 32, Ohio

▲ For more details circle NED-83 L5 on enclosed inquiry slip ▲

Parts Flow
SMOOTHLY
FROM ONE OPERATION TO ANOTHER
with FEEDALL
4500 ELEVATING CONVEYOR



This Unit, especially designed for cylindrical parts, accepts work at a lower level and discharges it at the desired higher level (variable to meet requirements) for next operation—thus helping to make production lines fully automatic. Built-in stop and start device prevents jamming when discharge chute is full. Speed of operation is variable to match speed of machines with which it operates.

This is just one model in a line of Feeders and Conveyors for automatic feeding and transmission of production parts.

Why not tell us your feeder problems and let our engineers submit proposals?

The unit illustrated is for use in a production line of gears.

FEEDALL INCORPORATED WILLOUGHBY, OHIO

▲ For more details circle NED-86 L5 on enclosed inquiry slip ▲

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PERMIT NO. 36
Cleveland, Ohio

BUSINESS REPLY ENVELOPE
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—4c POSTAGE WILL BE PAID BY—

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Penton Building

CLEVELAND 13, OHIO

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Because we must check the distribution of NEW EQUIPMENT DIGEST at least once each year, please fill-in completely the coupon at the right. If you returned one of our regular mail questionnaires or an inquiry within the past year, you may omit this. The information you give will be held confidential and used only for verifying or correcting our circulation list.

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Please send NEW EQUIPMENT DIGEST to me each month free of charge.

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

Principal Products Manufactured _____

_____ Approximate Number of Employees in Plant _____

Also send NEW EQUIPMENT DIGEST free to the following men in our company:

NAME _____ TITLE _____

NAME _____ TITLE _____

USE THIS SELF-MAILER FOR MORE INFORMATION

FOLD—SEAL—MAIL

SECOND FOLD TO THIS LINE

Circle the Numbers Below corresponding to items on which you want additional information. Your request will be sent promptly to the manufacturer. Please fill in the coupon completely. We'll pay the postage.

	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
1	51	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151	1201
2	52	102	152	202	252	302	352	402	452	502	552	602	652	702	752	802	852	902	952	1002	1052	1102	1152	1202
3	53	103	153	203	253	303	353	403	453	503	553	603	653	703	753	803	853	903	953	1003	1053	1103	1153	1203
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6	56	106	156	206	256	306	356	406	456	506	556	606	656	706	756	806	856	906	956	1006	1056	1106	1156	1206
7	57	107	157	207	257	307	357	407	457	507	557	607	657	707	757	807	857	907	957	1007	1057	1107	1157	1207
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17	67	117	167	217	267	317	367	417	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167	1217
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19	69	119	169	219	269	319	369	419	469	519	569	619	669	719	769	819	869	919	969	1019	1069	1119	1169	1219

FOLD BOTTOM EDGE TO THIS LINE

20	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220
21	71	121	171	221	271	321	371	421	471	521	571	621	671	721	771	821	871	921	971	1021	1071	1121	1171	1221
22	72	122	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922	972	1022	1072	1122	1172	1222
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49	99	149	199	249	299	349	399	449	499	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199	1249

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NEW EQUIPMENT DIGEST

A PENTON PUBLICATION

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

Principal Products Manufactured: _____

Approximate Number of Employees In Plant: _____

Check Invested Capital Rating of Your Company

- ☐ Over $1,000,000
- ☐ $500,000 to $1,000,000
- ☐ $200,000 to $500,000
- ☐ $75,000 to $200,000
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USE THIS SLIP FOR NOVEMBER, 1955 ISSUE ONLY

L-5

...and a "Steal" at its Price!

PIC STEEL UNIONS* are priced *right*. They cost less than a galvanized, no more than a black malleable union. Yes and here's what you get for your money:

- 100% zinc plating — even threads are zinc plated to combat rust
- Easy installation — ends are uniformly flat-sided, uniformly parallel of heavy steel pipe coupling stock
- Tight seal — due to special wedge type bronze seat
- Good looks and strength — ideal for original equipment

**For 150# Service — Write for FREE Samples*

DART UNION COMPANY
132 Thurbers Avenue, Providence 5, R.I.
The Fairbanks Co. — Distributors
Boston • New York • Pittsburgh • Rome, Ga.

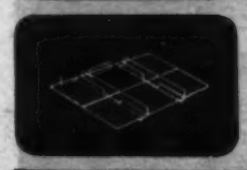
▲ For more details circle NED-87 L5 on enclosed inquiry slip ▲

Produce It Better, Faster, at Less Cost with

***Peerless* FORMED WIRE PRODUCTS**

Wire racks, baskets, trays, dish washer racks, fan guards and hundreds of other formed wire products are Peerless' specialty.

Heavy gauges of low carbon steel or stainless to ½" diameter in round, square, flat wire available with resistance welded fabrication at all points of contact.



Zinc electroplate with Chromate treatment or Poly-vinyl finishes to specifications.

Write today for more information.

PEERLESS WIRE GOODS COMPANY, INC.
2706 FERRY STREET, LAFAYETTE, INDIANA

▲ For more details circle NED-88 L5 on enclosed inquiry slip ▲

SPEEDS UP TWO JOBS!
painting...and purchasing

PAINTERS will tell you that your best buy in brushes is "Osborn". They last longer. They work faster.

And, Osborn Brushes save purchasing manhours, too. You can get *all* of your power, paint and maintenance brushes from one source... automatically... with assurance of top quality. *The Osborn Manufacturing Company, Dept. Z-30, 5401 Hamilton Avenue, Cleveland 14, Ohio.*

MAKES BUYING EASIER. *Write for free pocket-sized Osborn Brush Guide.*

Osborn Brushes

OSBORN BRUSHING METHODS • POWER, PAINT AND MAINTENANCE BRUSHES
BRUSHING MACHINES • FOUNDRY MOLDING MACHINES

▲ For more details circle NED-89 L5 on enclosed inquiry slip ▲

TRUCK LEVELING DEVICE
built in front of loading dock

Designed to conserve dock space, the Adjust-A-Truck leveling device is built into the pavement in front of a loading dock. A heavy duty hydraulic system raises or lowers an over-the-road truck or trailer until its bed is even with the dock. Device utilizes existing area and has a capacity of 40,000 lb. Standard unit is 12 ft long and 9 or 10 ft wide. Dock is rigidly constructed of ½-in. nonskid steel floor plate welded to a reinforced frame. Height is adjusted by a pushbutton control. Made by **Rowe Methods, Inc.**, Dept. A, 2534 Detroit Ave., Cleveland 13, O.

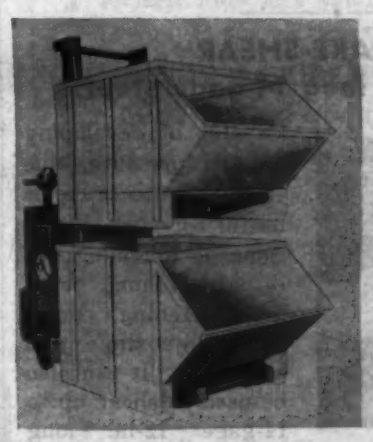
▲ For more details circle NED-90 L5 on enclosed inquiry slip ▲

CLOTH TAPE
¾-in. pressure sensitive type

Developed to bundle loose parts; bind coils of wire or pipe; protect finished surfaces and threads; and seal bags, cartons, cans and other containers, Permacel 64 black cloth tape is available in ¾-in. width in 60 or 90-ft lengths on 1½-in. diameter cores. It is reported to have twice the insulating resistance of friction tape and is thinner and builds up less bulk in multiple wraps. With adhesive on only one side, the production grade tape does not pick up lint or dust. Made by **Permacel Tape Corp.**, Dept. R, New Brunswick, N. J.

▲ For more details circle NED-91 L5 on enclosed inquiry slip ▲

PALLETIZED BINS
measure 36 x 24 x 48 in.



These king-size palletized Stackbins designed for efficient bulk parts handling and storage are primarily useful as intra- or inter-departmental carriers for heavy small parts or irregularly shaped materials. Bins are constructed of welded, reinforced sheet steel and have the capacity of four large drums. They measure 36 x 24 x 48 in., including 12-in. hopper front. Underclearance fits all types of fork and platform trucks. Individual bins can be safely stacked as high as desired. Made by **Stackbin Corp.**, 1081 Main St., Pawtucket, R. I.

▲ For more details circle NED-92 L5 on enclosed inquiry slip ▲

FACTS about FELT by FELTERS

From mechanical uses to decorative applications, Felters Felt can help you solve many a knotty design problem.

Felters Felt is made hard or soft... white, black or in many colors... by the yard or felt parts cut to your exact specifications.

RETURN THIS COUPON — FOR MORE INFORMATION ABOUT FELTERS FELT...

THE FELTERS COMPANY
224 South Street, Boston 11, Massachusetts
Please send me a copy of the "Felters Design Book".
Name.....Title.....
(Please Print)
Company.....
Address.....
City.....Zone.....State.....
Return to The Felters Co., 227 South St., Boston 11, Mass.

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MORE and MORE!

You have MORE people,
MORE production,
MORE hazards,
MORE telephone calls!

This means your plant needs
MORE signals!

FEDERAL signals give you
MORE protection! They also give you MORE service,
MORE quality per dollar, because
MORE years of experience have gone into their design and construction,
MORE improvements are incorporated in current models and
MORE people every month are equipping their plants with these signals.

If you aren't operating with the assistance of FEDERAL Sirens, Horns, and Bells, you are gambling time, property, and even lives against a very nominal investment.

Don't delay, ask for literature on FEDERAL Industrial Signals today!

FEDERAL SIGN and SIGNAL Corporation
8711 S. State St., Chicago 19, Ill.

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Leads The Field The First Year!

Automatic "DOCKER"

Assured universal acceptance from the first,
the DOCKER was and is unrivalled in compactness, maneuverability, shortest overall length—lowest step height—fastest lift—highest grade clearance—shortest turning radius. Also available are many special attachments making DOCKER the most versatile of lift trucks. Mono-lift or Duo-lift models—1,000 to 3,000-lbs. capacities. Why not find out what it can do for you?

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Automatic 61 W. 57th Street, Dept. W-5 Chicago 20, Illinois

WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS

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POUR FASTER
POUR SAFER

SIMPLE...
DIRECT...
QUICK...

CARBOY TILTER
Rugged steel tilter, easily clamped on carboy in upright position provides controlled flow. No spilling, splashing waste or damage.
G-S Type 11..$22.00

POURING SPOUT
Acid resistant, vented spout assures smooth flow up to 5 gpm. Fits all carboys.
G-S Spout....$4.95

BOTH FOR ONLY $25.00

FREE! Write for 64 page illustrated catalog describing and pricing hundreds of safety products.

ORDER DIRECT TODAY
Shipped promptly from Philadelphia.

GENERAL SCIENTIFIC EQUIPMENT CO.
GENERAL SAFETY EQUIPMENT
2701 W. HUNTINGDON ST., PHILADELPHIA 32, PA.

SAFETY EQUIPMENT FOR EVERY HAZARD

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RATED AT: 8 AMPERES
115 volts — 60 cycles
non-inductive load
Contact Combinations up to
3 POLE - DOUBLE THROW

The GUARDIAN Multi-Purpose® SERIES 1200 RELAY

A Mighty Midget . . . packed with power! Never before has so much power capacity been combined with so many possible contact combinations within such small dimensions. Only 1 11/16" long, 1" wide, 1¼" high. Weighs 1.9 ounces! Unique insulation block with barriers to meet U. L. specifications. Available as interlock.

COIL
Standard voltages. 6 to 230 volts, 60 cycles, A.C., non-inductive; 6 to 110 volts, D.C.
Terminals. Solder lug type.

MOUNTING
Standard. Single hole 6-32 tapped. Bottom mounting.

CONTACTS
Rating. Available for 1½ amperes or 8 amperes, 115 volts, 60 cycles, non-inductive load.
Combination. Available in any standard combination up to 3 P.D.T.
Material. Fine silver is standard; other materials to specification.

APPLICATIONS:
• Automation • Communications • Computers • Switching Devices • Remote Control Units • Automatic Selectors • Circuitry Projects • Electronic Controls

write today to arrange for a production sample. Include blue print or circuit diagram if possible.

GUARDIAN ELECTRIC
1626-M W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

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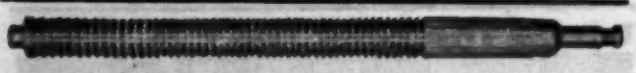
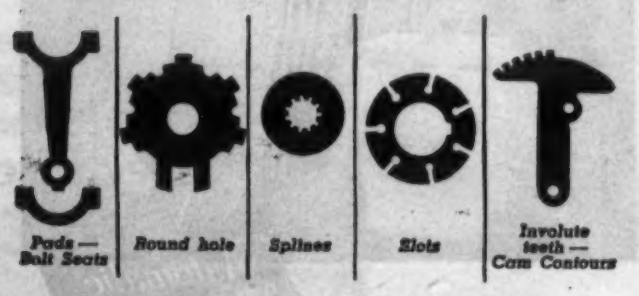


Whatever the job . . .
BROACH IT the American way



Whether or not your application for broaching is one of those shown here — and regardless of how simple or complex it may be — American will furnish the broaching equipment to meet your requirements for output, tolerance and finish. American builds all types of broaches, fixtures and broaching machines —backs up its products with a strong service organization to insure that they do the job right.

Send a part print or sample to Dept. M for a free estimate . . . or write for Catalog 450.

American BROACH & MACHINE CO.
A DIVISION OF SUNDSTRAND MACHINE TOOL CO.
ANN ARBOR, MICHIGAN

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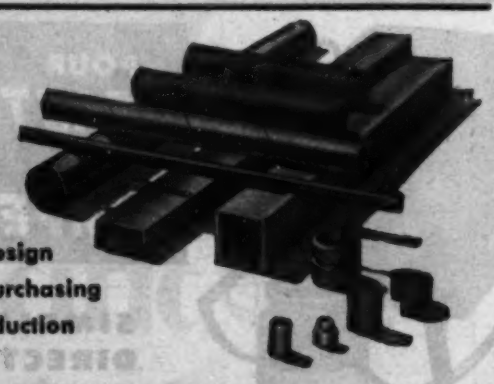

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simplify purchasing
speed production
with

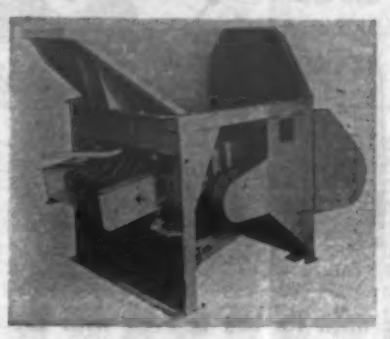
C-D-F SPIRAL TUBING

Looking for low-cost tubing to reduce unit costs and improve product performance? Consider the use of C-D-F Spiral Tubing, a high strength plastic made from paper or fibre that is spirally wound and cured at high temperatures. In many cases it can replace rolled or molded laminated plastics . . . at a good cost saving. Small sizes, thin walls are not a problem. For many applications, dimensional stability and moisture resistance is excellent. Coil forms, insulating tubes, paint roller tubes, shipping containers, bushings are just a few applications. Write today for 8-page Technical Folder ST-53, giving properties, sizes, tolerances on impregnated and unimpregnated round, square and rectangular C-D-F Spiral Tubing. Well illustrated. Call your C-D-F sales engineer (offices in principal cities) — he's a good man to know!

Continental-Diamond Fibre
CONTINENTAL-DIAMOND FIBRE DIVISION OF THE BUDD COMPANY, INC.
NEWARK 30, DELAWARE

▲ For more details circle NED-99 L5 on enclosed inquiry slip ▲

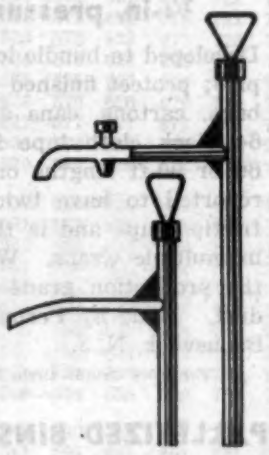
SCREENING MACHINE rated 50 tons per hour



This Screenmaster self-contained screening and separating unit is designed for floor use and is equipped with adjustable lump breaker. It has 30 x 60-in. screen, 30-cu ft hopper and radial type magnetic pulley for removing tramp iron. Rated capacity is 50 tons per hour. Screen has protective seal between belt and screen and below belt to keep sand from moving parts. Unit is designed to provide no obstruction at floor level. Made by **National Engineering Co.**, Dept. NED, Machinery Hall Bldg., Chicago 6, Ill.

▲ For more details circle NED-100 L5 on enclosed inquiry slip ▲

CARBOY PUMPS will handle corrosive liquids



All standard size glass carboys will accommodate these hand-operated carboy pumps, fabricated of unplasticized polyvinyl chloride. This material is not attacked by most of the common corrosive liquids. Two types are available, one with a plain outlet and the other with a polyethylene stopcock. Made by **American Agile Corp.**, Dept. E, Box 168, Bedford, O.

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SHEET METAL BRAKE-SHEAR handles 12-in. long 14-gage steel

Capable of developing 4½-ton pressure, this 12-in. Minute brake is useful for such operations as hemming, internal notching, bending, flattening, corrugating, boxing and louvering. It can also be used to shear up to 14-gage 12-in. long mild steel. Handle is interchangeable for right or left hand use, or two handles can be used simultaneously. Instant change dies, shear blades and stand are available. Made by **Rotex Punch Co.**, 2350-N Alvarado St., San Leandro, Calif.

▲ For more details circle NED-102 L5 on enclosed inquiry slip ▲

PERECO
Electric
FURNACE
for peak results
MODEL RH-68

Roller Hearth for Heavy Loads

WRITE TODAY

Standard and Special Units 450° F. to 5000° F.

This Model #RH-68 PERECO Electric Roller-Hearth Furnace is especially designed for rapid and easy handling of large or heavy loads, such as tools, dies, or products of similar nature which are difficult to load or unload from a hot furnace. Also ideally suited for enameling metal items. Typical of all Pereco Furnaces built to specialized job requirements. Automatic temperature controls of all standard makes are available to meet the individual need. Tell us your need and let us propose the answer.

PERENY EQUIPMENT CO.
Dept. G, 893 Chambers Rd., Columbus 12, Ohio
Export Office: Bessemer Bldg., Pittsburgh 22, Pa.

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HOMER

"Space Saver" MAGNETIC CONVEYORS

the modern method of handling ferrous parts

SAVE FLOOR SPACE . . . CUT LABOR COSTS . . . SPEED PRODUCTION

• Convey ferrous parts and pieces such as nuts, bolts, nails, washers, tin cans, bottle caps, stampings, scrap, etc., up inclines as steep as 90°.
• Pick up from floor level.
• Permit close grouping of machinery to save valuable floor space.
• Automatically stack flat pieces, feed machines and perform other handling operations formerly requiring manual effort.
• Can be synchronized for multiple machine operation in automated production lines.
• Portable and stationary types in standard or custom units for new or existing production lines.

WRITE TODAY FOR BULLETIN MC-101

THE HOMER MANUFACTURING CO., INC.
DEPT. 1-25 LIMA, OHIO

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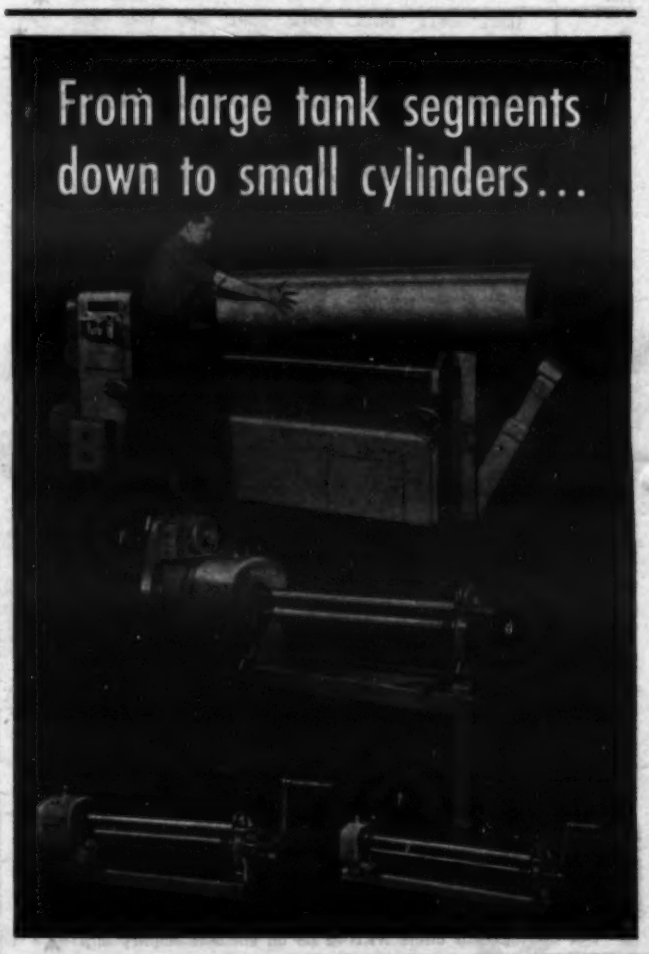

Niagara Slip Roll Formers can turn out better work faster, at greater profit

Name the job! In the truly complete Niagara line . . . *most complete of them all* . . . you're sure to find the Slip Roll Former best suited to your sheet rolling needs. Working with lengths up to 120" and thicknesses up to 5/16" mild steel, Niagara Slip Roll Forming Machines are available in an unusually wide range of power and hand operated models for forming light and heavy pipe; stacks; drum, pail, tub and other container bodies.

Featuring Pinch Type Rolls, modern Niagara Slip Roll Forming Machines produce commercially true cylinders virtually free from flat spots, using thin materials as well as thick . . . and because of Niagara's unique slip roll features, completed cylinders can be removed easily and quickly without distortion, saving time and costs.

Find out how Niagara Slip Roll Formers (Series 6", 4", 3", 2", 1½" and 1") can turn out better work at greater profits for you. Write for Niagara's new, illustrated Bulletin 77 today. It will be mailed free . . . without obligation.

NIAGARA

America's Most Complete Line of Presses, Shears, Other Machines and Tools for Plate and Sheet Metal Work

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DISTRICT OFFICES:
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CAN YOU THINK OF A BETTER WAY TO HANDLE MATERIALS?

CONVOY'S CHEMBOARD* SELF-STACKING TOTE BOXES *MAY BE YOUR ANSWER*

Convoy Boxes are LOW COST, STRONG and LIGHT WEIGHT . . . are made in a wide range of stock sizes and shapes. They weigh and cost less than 40% of steel.

*Chem-Board is Convoy's chemically impregnated corrugated board . . . flint-hard, rock-strong.

Here's an example of Convoy Self-Stacking Boxes speeding production, conserving space, saving money.

GET IN TOUCH WITH
CONVOY, INC.
CANTON 6, OHIO
P. O. Station B, Box 216-N

STANDARD AND CUSTOM-MADE NESTING, STACKING, and VERTICAL-SIDED CHEM-BOARD TOTE BOXES

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Tempilstik° FOR ALL HEAT-DEPENDENT OPERATIONS

looks like a crayon... marks like a crayon... tells temperatures like a precision instrument!

Sixty-three different compositions enable you to determine and control working temperatures from 113° to 2000° F. TEMPILSTIK° marks on workpiece "say when" by melting at stated temperatures—plus or minus 1%.

ALSO AVAILABLE IN LIQUID AND PELLET FORM . . . WRITE **ADVERTISING DIV.** FOR SAMPLE TEMPIL° PELLETS . . . STATE TEMPERATURES OF INTEREST—PLEASE!

Tempil° CORPORATION
132 WEST 22ND STREET, NEW YORK 11, N. Y.

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Learn the
NEW ABRASIVE APPLICATIONS
Never Before Associated With Finishing!

Diameters to 8"

Brightboy's rubber and abrasive working action pioneers and proves an entirely new finishing concept. Wide applications combine operations, replace costlier methods. Burring, finishing, cleaning, polishing often achieved in ONE OPERATION. Time savings—frequently 50%! Stock grains and textures to match job requirements. No before use preparation needed. Wide choice of uniform grains and textures—silicon carbide and aluminum oxide.

Ask your dealer to recommend the Brightboy abrasives for your jobs; also for the NEW BRIGHTBOY CATALOG. Write us if he cannot supply you, or on any problem where finishing is involved.

WELDON ROBERTS RUBBER CUSHIONED ABRASIVES
Brightboy

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street, Newark 7, N.J.

America's Pioneer Manufacturer of Rubber-Bonded Abrasives

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MOTION PICTURE CAMERA
16-mm unit has lens turret

Operating convenience and improved styling are features of this 70DR series of 16-mm motion picture cameras. It has a coupled viewfinder and lens turret, and is chrome finished. It has seven camera speeds, a 22-ft film run, three-lens turret, 100-ft film capacity, forward-reverse hand crank, positive viewfinder system and lenses ranging from 10-mm to 6-in. focal length. Prices range from $361.50 to $508.05, depending upon lens selection. Made by **Bell & Howell Co.**, 7100 McCormick Rd., Chicago 45, Ill.

▲ For more details circle NED-109 L5 on enclosed inquiry slip ▲

SPRING MOTOR MODEL
exerts 6-oz tension on output cable

To aid design engineers in development of mechanisms based on the Neg'ator constant-torque spring motor, this small working model of the B-motor form of the spring is offered. Smaller than previously offered model, this motor is mounted on 1 x 1¾-in. plastic base and experts a nominal 6-oz tension on the output cable as it is extended through 36 in. Constant torque of 0.11- lb-in. is developed through 20 revolutions of output bushing at all positions of cable extension. Model P-7172 Neg'ator B-motor can be obtained for $5.00 from **Hunter Spring Co.**, Neg'ator Div., Dept. NED, 1 Spring Ave., Lansdale, Pa.

▲ For more details circle NED-110 L5 on enclosed inquiry slip ▲

CONTOUR SCRIBER
aids fitting around pipe and walls

Accurate scribing of any sheet material, tile, linoleum, wood, plastic, and sheet metal to bring about a perfect fit around pipes, cabinets and corners can be done with this contour scriber. It can be used in following irregular and broken contours on floors, walls and ceilings. It marks scrolls or circles from 1 to 25 in. diameter. Scriber has scriber point at one end and a pencil at the other. Length is adjustable. Distributed by **M-M-A, Inc.**, Dept. N, Box 411, Lancaster, Pa.

▲ For more details circle NED-111 L5 on enclosed inquiry slip ▲

A SMALL LOT
METAL STAMPING SERVICE
AT LOWEST POSSIBLE DIE COST

FIRST...In Experience • In Know-how • In Research • In Quality • In Service

The sketch briefly describes the cost of a typical part made for one of our thousands of customers.

We have a short run stamping service to offer beyond comparison.

EXAMPLE

MAT'L C.R. STEEL
$63.20 for first 100 pieces including tools.
$5.20 for each additional 100 pieces plus material.

Factory trained representatives in all centers. Write for full details.

DAYTON ROGERS *Manufacturing Company*
MINNEAPOLIS 7E, MINN.

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AURAND
CLEANING TOOLS
ELECTRIC OR PNEUMATIC

Zip away SCALE RUST PAINT

Powerful rotary chipping action completely removes stubborn accumulations from iron, steel, brick, concrete, etc. with less effort. Adjustable depth shoe for controlling depth of cut. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write Dept. 14 for the money-saving facts.

AURAND MFG. & EQUIP. CO.
1210 Ellis St. • Cincinnati 23, Ohio

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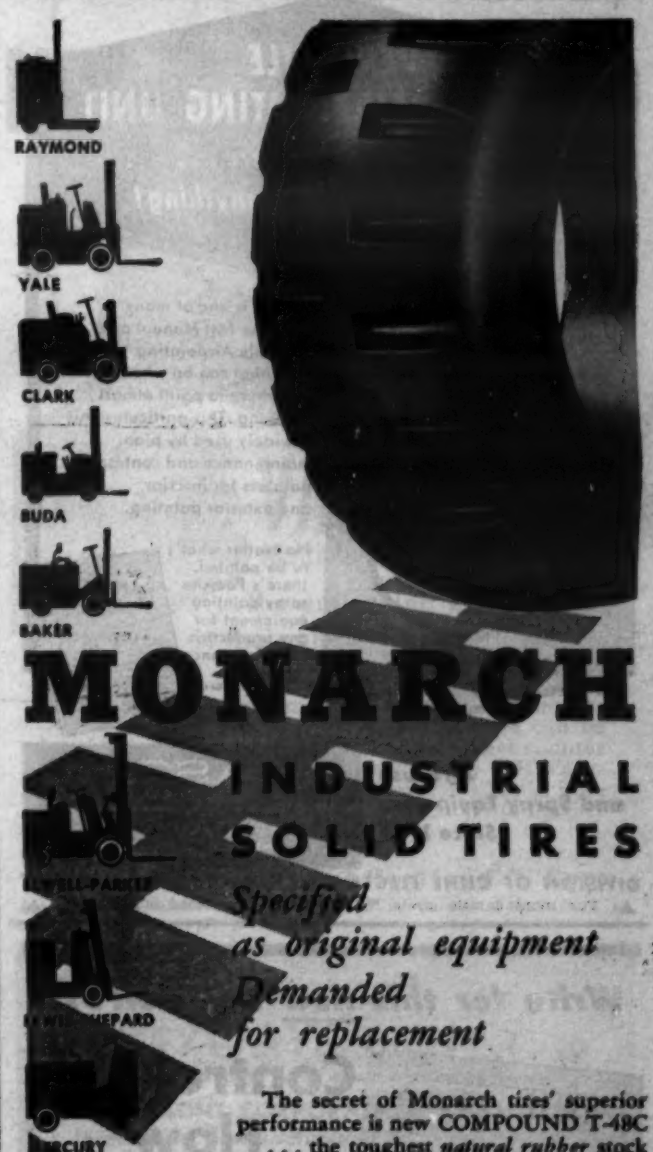

MONARCH INDUSTRIAL SOLID TIRES

Specified as original equipment Demanded for replacement

The secret of Monarch tires' superior performance is new COMPOUND T-48C . . . the toughest *natural rubber* stock developed to date. This stock and the heavy-duty lug tread pioneered by Monarch are setting new mileage and economy records on materials handling trucks of all types.

By continual research and field testing . . . and by concentrating on a single quality product . . . Monarch has developed a complete line of *performance-proven* solid tires.

That's why lift truck manufacturers and users specify Monarch tires. They wear better . . . last longer . . . cost less.

FOR DETAILS AND PRICES, WRITE FOR BULLETIN TD-300.

THE **MONARCH** RUBBER COMPANY
260 LINCOLN PARK • HARTVILLE, OHIO
7-255 General Motors Bldg., Detroit 2, Mich.

▲ For more details circle NED-114 L5 on enclosed inquiry slip ▲

IMPORTANT SAFETY for your plant!

Slip-resistant

Tri-Lok and Tri-Forged

Serrated grating and stair treads

Don't take chances in those plant areas where grease, oil or other conditions make floors slippery and dangerous! Play it safe with the non-skid, notched surface of *Tri-Lok* or *Tri-Forged* serrated grating and stair treads. Here is a walking surface that is hazard-proof and the ultimate in safety. To be sure you have complete information on all *Tri-Lok* and *Tri-Forged* products, write today.

For free catalog write Department D-2611

DRAVO CORPORATION
Pittsburgh 22, Penna.
National Distributors

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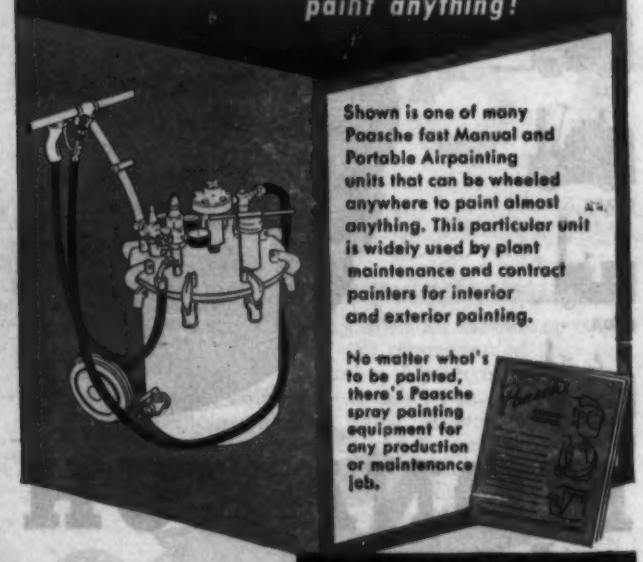
VERSATILE PAASCHE AIRPAINTING UNIT

can be wheeled anywhere . . . paint anything!



Shown is one of many Paasche fast Manual and Portable Airpainting units that can be wheeled anywhere to paint almost anything. This particular unit is widely used by plant maintenance and contract painters for interior and exterior painting.

No matter what's to be painted, there's Paasche spray painting equipment for any production or maintenance job.

Airbrush and Spray Equipment Since 1904

PAASCHE AIRBRUSH CO
1909 DIVERSEY PARKWAY
CHICAGO 14, ILLINOIS

DIVISION OF CLINE ELECTRIC MANUFACTURING COMPANY

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Write for this new book on . . .

Controlling Flow

If you manufacture any equipment where the control of fluid is important—a Dole Flow Control Valve may solve your problems and save you money, provide a simpler, better product.

Send for this new book.

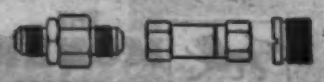
These Dole Valves are now successfully used on the following equipment:

Tankless Heaters
Automatic Washing Machines
Water Softeners
Drinking Fountains
Coffee Makers
Drink Dispensers
Shower Heads
Automatic Dishwashers
Sprinkler Heads
Ice Making Machines

Control with **DOLE**

AND SIMILAR APPLICATIONS

Typical Dole Flow Control Valves



THE DOLE VALVE COMPANY
1901 W. Carroll Ave. • Chicago 12, Ill.

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CARBIDE-TIPPED SAW BLADES cleanly cut various materials

Such diversified types of material as wood, asbestos and cement boards, abrasive materials, copper, magnesium, Masonite, Cemesto, flat and corrugated Transite, Micarta or Formica on plywood and plastics can be cut with these carbide-tipped saw blades. They are made in 6, 7 and 8-in. sizes. Unless the blade accidentally strikes a nail, it will outwear up to six standard type blades before it needs resharpening. Made by **Mall Tool Co.**, 7725 S. Chicago Ave., Chicago 19, Ill.

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ROTARY AIR PUMPS vacuum increased, height reduced

An increase in vacuum to as low as 0.4-mm mercury absolute has been achieved in line of straight wing rotary air pumps, ranging in capacities from 2.4 to 40 cfm. Overall height has been reduced 33 per cent. Improvements stem from newly designed automatic oiling system. Space-saving design is accomplished without any change in length of steel wings, area of piston space or efficiency of automatic wing adjuster in pump itself. When used for pressure, pumps provide range of 15 to 20 psi. Made by **Leiman Bros., Inc.**, 167-A Christie St., Newark 5, N. J.

▲ For more details circle NED-119 L5 on enclosed inquiry slip ▲

ADJUSTABLE FLOOR GLIDES for heavy furniture and equipment

Usable on automatic vending machines, office machines, air conditioning equipment and other heavy movable equipment requiring stability and leveling, these tiltable base glides are readily adjustable. Glide base of black phenolic plastic has a rounded edge. Leveling is accomplished by turning threaded stem with an Allen wrench in the hex socket. Where top is not accessible, adjustment can be made by turning the glide base with the fingers. Glide stems can be supplied in a variety of sizes and lengths. Made by **Adjustable Caster Co.**, 1412 Moravian St., Philadelphia 2, Pa.

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DICO WHEELS ARE ROLLING *Everywhere!*

WRITE FOR CATALOG

The Largest and Most Diversified Line of Industrial and High Speed Wheels In Sizes Up To 24" Rubber Tire Diameter

PRESSED STEEL WHEELS . . . with pneumatic, solid cushion and vulcanized-on tires . . . also solid rubber and all-steel wheels.

Let DICO help YOU with your wheel problems.

DICO
DES MOINES 5 IOWA

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Automatically feeds 8-hr. supply of bar stock to screw machine!

LIPE AUTOMATIC MAGAZINE-LOADING BAR FEED

- Feeds stock to screw machine *all the time* — not dependent on operator.
- Cuts cycle time — *guaranteed* to attain at least 90% of machine's gross geared production capacity.
- Eliminates feed fingers — multiple feed finger feed-outs — feed finger adjustments and replacements. No jamming of remnants.

Lipe's AML Bar Feed is today's big advancement in screw machine stock feeding. Get full details — send today for 4-page folder, name of nearest distributor.

Lipe-ROLLWAY CORPORATION
Syracuse 1, N. Y.

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cut weld cleaning time by 85%

Throw away your cold chisel and whisk off weld spatter with a dry rag! Protect-O-Metal spatter-proofing compounds make weld cleaning a breeze. Improve your welds at the same time - - P-O-M compounds quiet the arc, improve fusion and electrode operation, prevent oxidation and annealing scale, cause no porosity. No smoke, odors, or fumes.

P-O-M No. 2. Non-inflammable, non-toxic, water-soluble paste. Inorganic. Thin before applying and start welding at once. $3.30 per gallon, f.o.b. Dayton.

P-O-M No. 8. Rust- and corrosion-resistant resin base compound. Comes ready to use. Safe for all metals. Good paint primer; permits outdoor storage of subassemblies. $3.35 per gallon, f.o.b. Dayton.

MONEY-BACK TRIAL OFFER

Order a trial gallon of each today for testing in your shop. We'll cancel the bill if you're not satisfied.

PROTECT-O-METAL
G. W. SMITH & SONS, INC. 5406 KEMP ROAD, DAYTON, O

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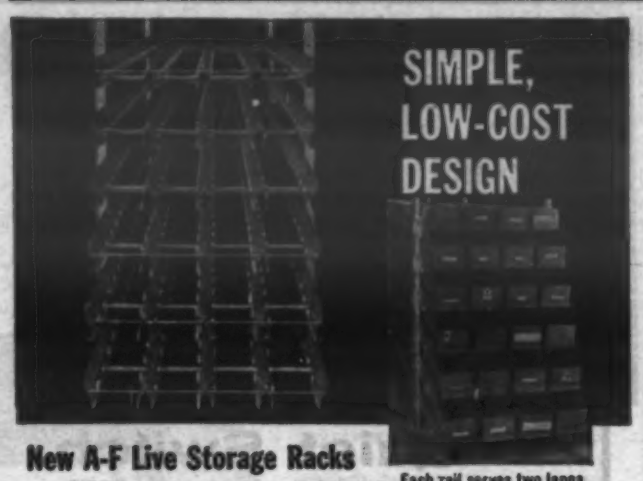
How to reduce materials-handling costs!

Did you know you can get Cargotainers® "Duty-Designed" for your particular products? Cargotainers are now working for some of America's largest manufacturers handling everything from auto parts, thread, smoked ham, plastic, electrical equipment—yes, even to the U. S. mail. Cargotainers pay for themselves quickly because they reduce damage to merchandise and equipment, double storage space, speed production, save labor.

A new 24-page illustrated manual has just been published. Regardless of the type or kind of products you make, you should have a copy. It's yours for the asking. **Pittsburgh Steel Products Company, 1407 Grant Building, Pittsburgh 30, Pennsylvania.**

▲ For more details circle NED-124 L5 on enclosed inquiry slip ▲



New A-F Live Storage Racks

Each rail serves two lanes

Give first-in, first-out control of cartons, tote pans, palletized loads in storage. Strong wide-based "hat-section" design of mass-produced Live Rails makes them ideal for racks. Because A-F Live Rails have two rows of wheels, each rail can serve two lanes. This means A-F Racks are built with approximately *half* the number of rails used in other racks. Guards are built integral with the rails. Assembly is simple, width of lanes can be changed quickly on the job. Length, width and height can be varied to suit your exact need. Many exclusive A-F features.

Write today for complete details on A-F live storage racks.

A-F **A-F Conveyors**

A-F founded the package conveyor business in 1901.

The Alvey-Ferguson Co., Dept. KA Cincinnati 9, Ohio and Azusa, California

▲ For more details circle NED-125 L5 on enclosed inquiry slip ▲

See this new, low cost Ozalid whiteprinter—

Streamliner 400

The STREAMLINER 400 is versatile, all purpose, big capacity... has synchronized printing and developing... handles sheet or continuous roll stock up to 42" wide... prints at speeds up to 24' per minute... priced so low that it soon pays for itself.

This new Ozalid model reproduces anything drawn, written, typed or printed on translucent paper... delivers a sharp, clean dry print in less than a minute, for less than 1½¢ per square foot. And it will also copy spec sheets, materials lists, reports, manuals, bulletins, etc.

Compact, simply designed, ruggedly built, the STREAMLINER 400 assures top performance, easy operation, trouble free service, minimum maintenance. With more new features than any other whiteprinter in its price class. Compare:

- Two-way developer control
- Newly designed electronic drive
- Instant reversal
- Teflon developer screen
- New Mercury vapor lamp with balanced cooling
- Detachable roll stock holder
- Pressurized evaporator tube with jet-type feed
- Thermostatically controlled heater rod assembly
- Exhaust timer • UL approved

Call the nearest Ozalid distributor *(see phone book)*. Or write 132 Ozaway, Johnson City, N. Y. ...In Canada, Hughes Owens Co., Ltd., Montreal.

OZALID

OZALID—A Division of General Aniline & Film Corporation... *From Research to Reality.*

▲ For more details circle NED-126 L5 on enclosed inquiry slip ▲

MAGNETIC REFRIGERATOR produces and maintains near absolute zero temperatures

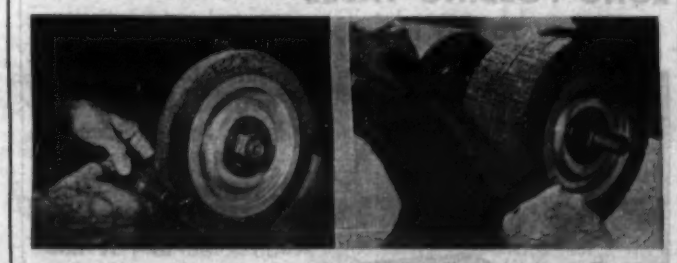
Temperatures within a fraction of a degree of absolute zero, or −459.6° F can be produced and maintained by the ADL magnetic refrigerator. Apparatus operates on principle of magnetic cooling in which certain materials will warm when magnetized and cool when demagnetized. It has no moving parts or flowing fluids, but uses a 3-in. long plastic capsule containing a chemical salt as the refrigerant. Operation is controlled entirely by external magnetic fields.

Refrigerator is believed to be the first commercial application of the phenomenon called "superconductivity." This is a change certain metals undergo at very low temperatures in which they lose all resistance to an electric current. Apparatus will facilitate studies of the basic laws of matter, such as observing the more subtle changes going on in atoms and molecules which at ordinary temperatures are too active for accurate study. Developed by **Arthur D. Little, Inc.**, 30 Memorial Dr., Cambridge 42, Mass.

▲ For more details circle NED-127 L5 on enclosed inquiry slip ▲

FLEXIBLE GRINDING WHEELS offered in 10 and 12-in. diameters

Light grinding, burr snagging and polishing of flat or contoured surfaces can be performed with Grind-O-Flex flexible grinding wheels, now available in 10



and 12-in. diameters and 1 and 2-in. widths. Range of grits from No. 40 to 320 is offered. Choice of proper grit for the job precludes the danger of digging into the workpiece or flatting the radii. Several wheels can be ganged on one spindle to cover a broad surface, with each wheel flexing individually to follow contours. Wheels themselves consist of hundreds of "leaves" of aluminum oxide abrasive cloth sealed together at the hub. They are provided with flanges to fit any threaded spindle on grinders, buffers, motor shafts, polishing jacks or automatic machines. Made by **Merit Products, Inc.**, Dept. D, 4623 Irving Pl., Culver City, Calif.

▲ For more details circle NED-128 L5 on enclosed inquiry slip ▲

PLASTIC COVERED DIPPERS AND PAILS

To withstand almost all types of acids, alkalis, oils, etc.—and at a lower cost.

First coated with a high grade finish of vitrified enamel, then with a hard wearing plastic, these pails and dippers are long wearing and light in weight.

Plastic Coated Pails 12 quart size $6.95 each

Plastic Coated Dippers 2 quart size $3.30 each

Prices F.O.B. Detroit, Michigan

WORLD'S LARGEST PLATING SUPPLIER

THE Udylite CORPORATION DETROIT 11, MICHIGAN

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PRECISION SMALL HOLE DRILLING

Should always be done on the

HAMILTON VARIMATIC®

STURDY
BENCH TYPE
VARIABLE SPEED
SUPER SENSITIVE
PRECISE

For complete information write for our FREE Bulletin No. 5413. Address The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio.

IT'S A Hamilton Tool

▲ For more details circle NED-130 L5 on enclosed inquiry slip ▲

NEW

VARY-TALLY

Multiple-Unit Reset Counter

...the only thing it can't count is the number of jobs it can do!

Quality-control checkers, talliers on production and inspection, labs, mail and phone order departments — these and countless other countable jobs can be brought squarely to account by this compact counter that's operated by a finger-flick. Get the V-R Vary-Tally in any of 66 combinations, up to 6 banks high and 12 banks wide, also in single units. Write for fact sheet and prices.

VEEDER-ROOT INC. Hartford 2, Conn.

▲ For more details circle NED-131 L5 on enclosed inquiry slip ▲

CLIP THIS to get KEYWAYS for 1¢ Each

The duMONT CORPORATION
Greenfield, Massachusetts

MAIL FREE BROACH CATALOG AND PRICE LIST D describing 26 standard kits, 49 standard broach sizes, 59 bushing sizes, standard square, hexagonal and production type broaches and a wide range of SPECIAL BROACHES to

Name.....

Company.....

Address.....

HS SQUARE BROACHES

HS HEXAGON BROACHES

With a *Minute Man* Keyway Broach Kit, you can cut your own keyways by hand for as little as a cent a piece. You'll have the job done in *one minute*, far quicker, far cheaper than setting up an expensive machine tool. Kits are available to handle keyways from 1/16" to 1" in any bore from ¼" to 3".

Minute Man High Speed Steel Square Broaches, Hexagonal Broaches and Production-type Keyway Broaches are available from stock at your Industrial Distributor's in a wide range of sizes.

The duMONT CORPORATION, Greenfield, Mass.

▲ For more details circle NED-132 L5 on enclosed inquiry slip ▲

Wide or Narrow...

1 C-F LIFTER HANDLES THEM ALL

Whether your production requires a few or many widths of sheet steel, 1 C-F Lifter, with its wide range of jaw and carrying angle adjustments will probably meet all your sheet handling requirements.

Adjustments are made by the operator in a few seconds, permitting the Lifter to shift from wide to narrow sizes almost instantly.

Because it can pick up, carry and unload more loads per hour, using less man and crane time than any other methods, a C-F Lifter will soon pay for itself.

Bulletin SL-28 gives you the complete story of C-F Lifter advantages to you. Ask for it today. There is no obligation.

CULLEN-FRIESTEDT CO.
1394 South Kilbourn Avenue • Chicago 23, Illinois

▲ For more details circle NED-133 L5 on enclosed inquiry slip ▲

45 acres of fixtures at new Ford plant maintained at lower cost with Up-Right Scaffolds...

17 ft. tower scaffold ➡ assembled in 2 minutes by 2 men

"UP-RIGHT"
Aluminum Alloy
SCAFFOLD-ON-WHEELS

This Aluminum Alloy scaffold provides the most economical and practical means to maintain overhead equipment in any plant, large or small. A tower of any height desired is ready in minutes. Individual 1-piece sections are unfolded and set one on top of the other. They lock into place instantly . . . no tools, wing nuts or bolts.

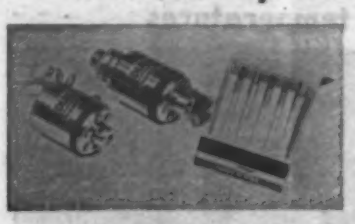
Your maintenance costs can be reduced by Up-Right Scaffold-on-wheels.

Write for descriptive circular!

"UP-RIGHT" SCAFFOLDS
DEPT. 145 · 1013 PARDEE STREET · BERKELEY, CALIF.
FACTORIES: Berkeley, Cal. and Teterboro, N. J. Offices in all Principal Cities

▲ For more details circle NED-134 L5 on enclosed inquiry slip ▲

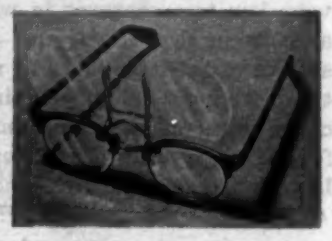
MAGNETIC CLUTCHES & BRAKES
1 in. units operate electrically



Offering unusual possibilities for miniaturization where a simple disconnect or nonchattering brake is required, size 100 electro-magnetic clutches and brakes can also be used for intermittent duty slip applications. They weigh only 2½ oz, measure less than 1-in. diameter and consume 2-w, yet they deliver 30 oz-in. of torque. They can be used at speeds to 4000 rpm, and their response time is 10 to 15 milliseconds. Design allows for considerable misalignment of the driving and driven members. They are available to operate on 28 or 100-v dc, with other voltages on special order. Made by **Dial Products Co.,** Dept. S, 9 Avenue E, Bayonne, N. J.

▲ For more details circle NED-135 L5 on enclosed inquiry slip ▲

SAFETY SPECTACLE CLIP
snaps on prescription lenses



Safety spectacles or protective shields of clear or tinted plastic can be affixed to all types and makes of prescription lenses by the Kim-Clip. Lightweight device snaps on glasses and is adjustable to three positions—up, horizontal and down. It affords convenient protection in welding and grinding operations. Made by **Kimball Safety Products Co.,** 9308 Wade Park Ave., Cleveland 6, O.

▲ For more details circle NED-136 L5 on enclosed inquiry slip ▲

LONG FOLDING TABLE
easy to set up, carry and store

Built to withstand hard, repeated usage, this Foldcraft folding table is available in sizes from 30 x 72 in. to 36 x 96 in. It has steel channel side rails and cross rails, 2⅛-in. apron on all sides, and welded and riveted tubular 16-gage 1-in. steel legs. Two tops are offered. One has a plastic laminate on ¾-in. exterior plywood with a plastic balancing sheet on the underside. This model is made in gray, green, tan, red or yellow colors. The other top is 1-in. tempered Superwood. Stacking is easy because table folds from 29 in. high to 3 in. high. Legs recess inside of apron. Made by **Haldeman-Homme Mfg. Co.,** 2580 University Ave., St. Paul 14, Minn.

▲ For more details circle NED-137 L5 on enclosed inquiry slip ▲

LAMSOM BILLMYRE
offers centrifugal blowers in cast iron or heavy steel

Lamson Billmyre Centrifugal Blowers are encased in heavy steel or ¼" cast iron housing. Designed for air or gas, they range from 100 to 25,000 C.F.M. . . . from ½ to 500 hp.

Only 1 part . . . the impeller assembly . . . moves. No internal lubrication is required. Heavy duty ball bearings of standard manufacture need lubrication at most 4 times yearly. Are mounted on accessible, open-type brackets outside the housing.

Air is clean, oil-free. Delivered without pulsation. Pressure or vacuum remains nearly constant at all capacities . . . with horsepower proportional to actual air volume delivered.

Lamson Billmyre Centrifugal Blowers are assembled from parts made by Lamson. Delivery is rapid.

For further information on Lamson Billmyre Air Blowers, Exhausters, and Gas Boosters, write today for bulletin B-6 to Lamson Corporation, 2031 Lamson Street, Syracuse 1, N. Y. *Advt.*

▲ For more details circle NED-138 L5 on enclosed inquiry slip ▲

THE "NEW LOOK" in Switches

ROTO-GLO®
Quiet Switch

Modern functional design features make ROTO-GLO the ideal, all purpose switch for new product planning. They can be used to full current rating on incandescent and fluorescent lighting loads and on motors up to 80% of current rating.

Screwless terminals make for fast, efficient installation, and large silver alloy contacts will not oxidize even under continuous heavy duty service.

ROTO-GLO Switches glow in the dark, turn off and on like a radio or television set, and are quiet. Available in P&S Despard type (15 Amp., 120 Volt A.C., 277 Volt A.C.) for multiple assemblies — or conventional strap type (15 Amp., 120 Volt A.C.). Approved by Underwriters' Laboratories, Inc.

Write today for complete details to Dept. NED-5

PASS & SEYMOUR, INC.
Syracuse 9, New York

▲ For more details circle NED-139 L5 on enclosed inquiry slip ▲

To lubricate the tightest bearings, use...

the penetrating lubricant

Has 25% greater lubricating power than ordinary oils—penetrates areas they cannot reach—flows freely even at 40° below zero.

Lubri-Tasgon will quickly loosen gummed-up sludge—relieve and prevent recurrence of sticky valves—provide lasting lubrication between every chafing surface.

Added to crankcase oil, Lubri-Tasgon shortens break-in period — insures more uniform, economical performance.

Lubri-Tasgon comes in handy tool-kit size 3-oz. cans, pints, quarts, and gallons—also in barrels.

● Send for Free Sample and Price List ●

SAMUEL CABOT INC.
1132 Oliver Building, Boston 9, Massachusetts

▲ For more details circle NED-140 L5 on enclosed inquiry slip ▲

CINDET
ALL-PURPOSE LIQUID SYNTHETIC DETERGENT

LIFTS DIRT AND HOLDS IT OFF!

Equally effective in hard or soft water . . . LOOSENS and LIFTS dirt—holds it in suspension in rich, creamy suds.

CINDET is ideal for stripping old wax from floors before rewaxing. Nothing else removes rubber marks and smudges so fast, so completely! Yet CINDET is safe for all surfaces. It is approved for rubber flooring by the Rubber Flooring Division of the Rubber Manufacturers' Association, Inc.

CINDET has hundreds of general cleaning uses; it's SAFE and THOROUGH everywhere!

FOR FREE SANITARY SURVEY OF YOUR PREMISES SEE YOUR DOLGE SERVICE MAN

Write for literature; have your DOLGE Service Man demonstrate CINDET.

DOLGE
WESTPORT, CONNECTICUT

▲ For more details circle NED-141 L5 on enclosed inquiry slip ▲

FASTEN, HINGE or PIN with DRIV-LOK PINS

FASTER ASSEMBLY... LOWER COSTS

POSITIVE ANCHORING ...won't come loose

DRIV-LOK Pins are responsible for great economies and product improvement in thousands of applications. For machinery, finished products, components and sub-assemblies, DRIV-LOK Pins offer definite advantages in time, labor and cost savings. We can help you better if you will write, giving us the nature of your problem. Catalog and Samples sent without obligation.

STANDARD TYPES a type for every need.

Type A Type B Type C Type D Type E
Also Types F and G

WRITE FOR CATALOG

DRIV-LOK PIN COMPANY
712 Chauncy Street Sycamore, Illinois

▲ For more details circle NED-142 L5 on enclosed inquiry slip ▲

GIVES YOU A LIFT IN CUTTING COSTS

'Tugit' is a powerful, speedy tool that lifts and pulls smoothly at any angle. It is a small, light spur-geared hoist — fits any tool box. It's easy to set up and use in close quarters. A pull of only 40 lbs. lifts a 1-ton load. Accurate spotting is a cinch. Non-kicking handle! The brake acts fast, automatically. Both hooks are safety-type, and the chain is super-tough.

For maintenance, for pulling stumps, for opening freight car doors, for tightening or joining — whatever the job — save time, effort and money with a 'Tugit'. Made in 1 and 2 ton sizes. Get full details from your "Shaw-Box" Distributor or write for Bulletin 388.

'TUGIT'® HOISTS

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of "Shaw-Box" and 'Load Lifter' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of 'Ashcroft' Gauges, 'Hancock' Valves, 'Consolidated' Safety and Relief Valves, 'American' and 'American-Microsen' Industrial Instruments, and Aircraft Products.

▲ For more details circle NED-143 L5 on enclosed inquiry slip ▲

Free facts and figures for engineers

• Denison's Bulletin 215 is a working tool for engineers. There are no photos, no descriptions of products . . . just facts and figures you can use in your work.

Here is some of the information you'll find in this bulletin:

- Gallons converted into cubic in.
- Capacities of hydraulic rams in tons . . . based on diameter of ram and pressure
- Circumferences and areas of circles with given diameters
- Decimal equivalents of diameters
- Specific gravities and weights of various metals, alloys, solids and timber
- Squares and cubes of numbers from 1/32 through 11 7/8

We have been using Bulletin 215 for distribution to our customers. If you'd like a free copy, write us.

THE
DENISON ENGINEERING COMPANY
1192 Dublin Road • Columbus 16, Ohio

HYDRAULIC PRESSES
PUMPS • MOTORS • CONTROLS

DENISON HydrOil ics

▲ For more details circle NED-144 L5 on enclosed inquiry slip ▲

PORTABLE POWER SPRAYER for industrial and construction use

Though specifically designed for road and building maintenance work, this portable power sprayer is also adaptable for many other applications. It is offered in two sizes with 3 and 3½-hp gasoline engines driving high speed nylon-roller pumps which develop 150-psi and 300-psi pressures, respectively. Entire unit is housed in a compact welded steel frame for ease of handling. Hoses and variety of spray nozzles are offered. Made by **Larson Machine Co.**, Dept. A, Princeville, Ill.

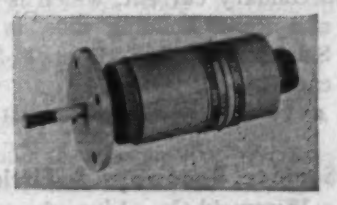
▲ For more details circle NED-145 L5 on enclosed inquiry slip ▲

LIFT TRUCK turning radius is 79 in.

Short length, narrow width and ease of steering contribute to the maneuverability of the HC-50 lift truck. It has a capacity of 5000 lb, outside turning radius of 79 in. and net weight of 7110 lb. Its Waukesha gasoline engine gives it a maximum forward speed of 9.5 mph. Standard lift height is 10 ft, with 8 and 12-ft lifts optional. Fork lengths offered are 36 (standard), 30, 42, 48, 54 and 60 in. Width is 35 in. and length is 83 in., less forks. Diesel engine, LP gas conversion kit, Hystamatic drive and Hyster Free Lift are optional features. Made by **Hyster Co.**, 2906 N. E. Clackamas St., Portland 8, Oreg.

▲ For more details circle NED-146 L5 on enclosed inquiry slip ▲

DISPLACEMENT TRANSMITTER transmits small motions accurately



This flange mounted model 100 universal displacement transmitter will transmit motions of 0.000001 to 0.125-in. accurately. It has standard AN connector, bearing-aligned spring-loaded plunger and a micrometer zero adjustment. Sensitivity is 5 mv per 0.001-in. with 6.3 v 60 cps excitation. Linearity is within ½-per cent. Made by **Daytronic Corp.**, 216 S. Main St., Dayton 2, O.

▲ For more details circle NED-147 L5 on enclosed inquiry slip ▲

MAKE STA-WARM EFFICIENCY Cut Your Compound Melting Costs

Each of these two compound melters does its own job with a high degree of efficiency.

Heating, melting and dispensing various compounds used in your production *can* be an efficient low-cost item in your direct expense budget. It all depends on the efficiency of the heating-melting-dispensing equipment you use.

There is no more efficient melting tank or dispensing method than the properly engineered unit available to you from the Sta-Warm line.

Illustrated bulletins clearly indicate Sta-Warm's standard heating-melting-dispensing equipment, available for the asking. Factory engineering to produce special equipment for unusual compounds or unusual production requirements also is available.

Outline your current problem in a note to Sta-Warm today. You'll receive their recommendations promptly . . . without obligation. Sta-Warm can help you cut compound melting costs. Is it worth an inquiry at this time?

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO

▲ For more details circle NED-148 L5 on enclosed inquiry slip ▲

CUT COST of PRECISION gear PRODUCTION

5416

THIS FACT has been demonstrated time and time again

If you produce small, fine pitch, precision gears, up to 6" O.D. of the gear blank, use of the Hamilton Precision Gear Hobber will enable you to attain more gear precision with no sacrifice in gear production, or increased gear production with no sacrifice in gear precision . . . or both!

WANT FACTS?

Write for Hamilton Bulletin No. 5416.
Address The Hamilton Tool Company
901 Hanover Street,
Hamilton, Ohio.

IT'S A **Hamilton Tool**
USE IT WITH CONFIDENCE

▲ For more details circle NED-149 L5 on enclosed inquiry slip ▲

Now you can buy CUSTOMIZED *conveyors in pre-fabricated* STANDARD *sections*

Sections can be assembled to form virtually any type of hinged-steel belt conveyor for handling stampings, formed metal parts, forgings, automotive scrap, chips and turnings and many other miscellaneous products.

Straight sections . . . concave or convex curved sections . . . take-up charge sections and discharge-end sections can be furnished to meet specific requirements of belt width as well as load bearing and volume capacities.

Conveyors can be lengthened, shortened or modified in almost any way at minimum downtime and cost.

MAY-FRAN . . . a name long recognized in the materials handling field . . . is first again with *standardized* components for your *customized* installation.

MAY-FRAN ENGINEERING, INC.
1711 Clarkstone Road • Cleveland 12, Ohio

▲ For more details circle NED-150 L5 on enclosed inquiry slip ▲

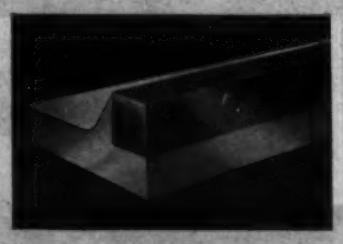
A Wheel for Every Job!

Our engineers will recommend the most efficient and economical wheel and axle assembly for your unit. We invite your inquiries.

WRITE US FOR CATALOG
ELECTRIC WHEEL CO.
2802 SPRUCE, QUINCY, ILLINOIS

▲ For more details circle NED-151 L5 on enclosed inquiry slip ▲

You save time because OK Composite Die Sections are carried in stock for immediate shipment. Available for Cutting, Trimming and Forming Dies Order them cut to length or in bars 125" long. There are 11 standard cross sections with both wide and narrow lands.



You save money because you can buy them at a price far below what it would cost you to make them yourself. The soft steel backing, to which uniformly hardened steel is clad, is drilled quickly and economically for dowel and screw holes. Adjustments for wear are equally simple.

Companies now using OK Composite Die Sections report great time and money savings over competitive products formerly used.

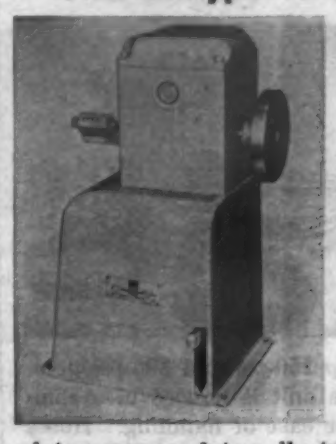
For new bulletin on OK Composite Die Sections and Clad Aluminum Bronze Wear Plates, write Dept. 42-H.

THE OHIO KNIFE CO.
CINCINNATI 23, OHIO

Manufacturers for the Metal Working Industry of:
Slitter Knives • Shear Blades • Work Rest Blades • Cut-Off Blades • Hardened Spacers Hardened Ways • Gibs • Ball Races • Bronze Ways • Wear Strips

▲ For more details circle NED-153 L5 on enclosed inquiry slip ▲

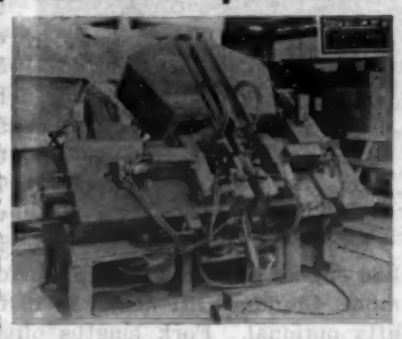
WINDER DRIVE
for all types of electric coils



This model 2050 all-purpose bench model winder drive is equipped with a ⅓-hp motor operating on 120-v 50-60 cycle ac and provides winding speeds of 95, 200 and 360 rpm by means of a gear reducer and three-speed pulley. Engaging the clutch releases the brake, and releasing the clutch automatically engages the brake. Standard faceplate accommodates all styles of winding heads and tapped shaft takes bolts for small-core coil winding applications. Included is a 5-digit automatic turn counter. Made by **Crown Industrial Products Co.**, 1004 Amsterdam St., Woodstock, Ill.

▲ For more details circle NED-153 L5 on enclosed inquiry slip ▲

FLASH BUTT WELDER
joins aluminum to copper tubing up to 2-in. OD, round stock up to ½-in.



Rated 150 kva on 220 or 440 v operation, this BMW1-150 flash butt welder is designed to weld aluminum to copper tubing or round stock. Welder handles up to 2 in. OD tubing in the following metals with these minimum and maximum cross sectional areas: mild steel, 0.04 to 1.3-sq in.; medium forging grade steel, 0.04 to 0.8-sq in.; and aluminum and copper alloys, 0.08 to 0.62-sq in. One hundred per cent joint efficiency and excellent ductility is achieved in joining aluminum and copper round stock.

Machine has clamp force adjustable to 18,000 lb; clamp stroke adjustable from ½ to 2 in.; and upset force adjustable to 20,000 lb. Secondary voltage is adjustable in 32 steps from 1.1 to 9.3 v. Maximum secondary current, which is conducted to both upper and lower welding dies, is 44,000 amp. Made by **Sciaky Bros., Inc.**, Dept. M-5, 4915 W. 67th St., Chicago 38, Ill.

▲ For more details circle NED-154 L5 on enclosed inquiry slip ▲

Surface Raceways & Fittings

Wiremold Co.—Line of surface metal raceways and fittings is illustrated and described in 132-page catalog and wiring guide. Installation instructions for all sizes of raceways, including Plugmold multi-outlet assemblies are among contents. Line of fluorescent and slimline equipment is also covered.

▲ For more details circle NED-155 L5 on enclosed inquiry slip ▲

PROBLEM: swift, efficient movement of materials

When a materials handling problem is costing you time and money, your quick solution is to call in a Simplicity sales engineer.

SOLUTION: Simplicity feeders and conveyors

Food and chemical processing plants, foundries, mines and quarries all over the country are solving their materials handling problems with Simplicity equipment.

Whether you are handling hot foundry sand and castings or a frozen food product, there is a Simplicity conveyor and feeder designed for your purposes. Simplicity conveyors and feeders with one or two carrying surfaces will provide you with a steady product flow when you want it, where you want it.

Simplicity 155
ENGINEERING COMPANY • DURAND 15, MICH.
FOR CANADA: SIMPLICITY MATERIALS HANDLING LIMITED, GUELPH, ONTARIO

▲ For more details circle NED-156 L5 on enclosed inquiry slip ▲

for EFFICIENT HANDLING and ORDERLY STORAGE

You save time, both in storing and in issuing, when you use Brown Sectional Racks. Open sides speed handling. Complete visibility permits quick selection to save mechanics' waiting time.

Maximum flexibility in arrangement is possible because each Brown Rack is independent and self-contained, need not be bolted to floor. Easily relocated. Systemized storage with Brown Racks promotes good housekeeping, cleanliness.

All iron and steel construction, can't burn, bend, sag or warp. Never wear out.

Get these values now! Write for complete specifications and prices on wide range of models and sizes. Brown Engineering Co. 129 N. Third St., Reading, Pa.

BROWN QUICK-SERVE RACKS

▲ For more details circle NED-157 L5 on enclosed inquiry slip ▲

THE BEAD CHAIN MANUFACTURING CO.
16 Mountain Grove St., Bridgeport, Conn.

▲ For more details circle NED-158 L5 on enclosed inquiry slip ▲

AMERICAN DECALS

MAXIMUM DURABILITY AND ECONOMY BECAUSE THEY ARE "CUSTOMIZED" FOR YOUR SPECIFIC NEEDS

- INSTRUCTIONS
- TRADEMARKS
- NAMEPLATES
- DIALS
- GAUGES
- WARNINGS
- INVENTORY MARKINGS
- PATENT & SERIAL NOS.
- DEALER SERVICE
- INDICATORS
- INSPECTION MARKINGS
- GUIDES

All decal markings are NOT alike! The American Decal research laboratory formulates and tests decal marking for *your specific product and use*—assuring you longer life, greater dependability and economy. Complete design and art service available on request.

FREE WRITE FOR SAMPLES AND LITERATURE

American Decalcomania Co.
4144 W. 5th Ave., Dept. R, Chicago 24, Ill.
New York • Cleveland • Windsor, Ont., Canada

▲ For more details circle NED-159 L5 on enclosed inquiry slip ▲

CYCLONE SEPARATION

FOR MORE EFFICIENT DUST COLLECTION —FILTERS LAST LONGER

Almost all industrial dusts can be collected more efficiently by Dustkop. Thirty-seven standard models *ready to use!* Reduce installation costs — save space. Write for descriptive literature.

DUSTKOP STOPS DUST

ALSO A COMPLETE LINE OF MIST COLLECTORS

AGET MANUFACTURING COMPANY
1396 EAST CHURCH ST., ADRIAN, MICH.

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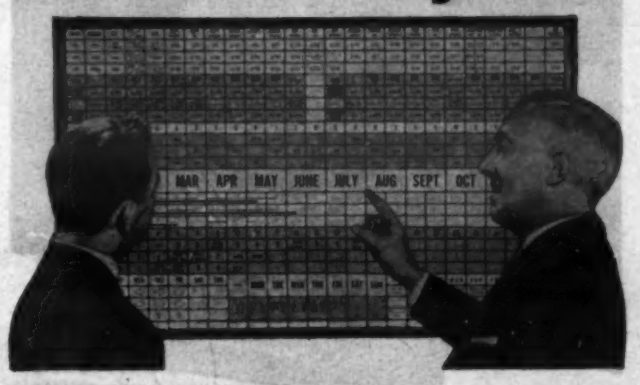
How To Get Things Done



BOARDMASTER VISUAL CONTROL

Gives you a Graphic Picture of your operations, spotlighted in color. You See what is happening at a glance. Facts at eye level —saves you time, prevents errors.

Simple, flexible—easily adapted to your needs. Easy to operate. Type or write on interchangeable cards, snap in grooves. Ideal for production, scheduling, sales, traffic, inventory, etc. Made of metal. Compact, attractive.

Complete Price $49.50 Including Cards

FREE 24-Page Illustrated Booklet N-500 Mailed Without Obligation

GRAPHIC SYSTEMS 55 WEST 42nd STREET NEW YORK 36, N. Y.

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To be sure! YOU CAN GET BETTER PRODUCTION IN YOUR PLANT

TIME RECORDER-TOTALIZER

• This precision instrument provides accurate, permanent, chronological data about any machine, process or system in plant or office ...on a continuous chart-roll which lasts four months. Uses no ink. Totalizer shows accumulated "on" time.

PRICE $55.

descriptive literature NE on request

STANDARD INSTRUMENT CORPORATION DIV.
HEAT-TIMER corporation
657 BROADWAY, NEW YORK 12, N.Y.

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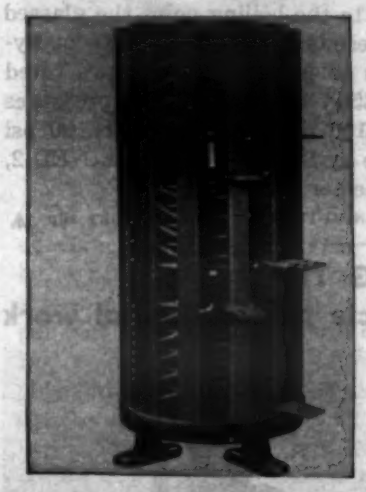
CUT-OFF WHEEL reinforced for rapid cutting

Reinforcing layers of high tensile fabric furnish the Blue Flash abrasive cut-off wheel with ample strength for rapid cutting of steel, cast iron and ferrous metals. Improvement in bonds and bonding processes permit an increase in abrasive grain content and allow grains to be bonded in a porous construction for sharper, faster cutting action. Rough abrasive sides provide clearance to maintain wheel speed at best operating efficiency. Various grits and grades are available in sizes for all cut-off equipment. Made by **Bay State Abrasive Products Co., 1 Union St., Westboro, Mass.**

▲ For more details circle NED-163 L5 on enclosed inquiry slip ▲

CURRENT LIMITING REACTORS limit short circuit currents



Line of current limiting reactors for limiting short circuit current to safe values and reduce the effect of resulting voltage disturbance are designed for indoor or outdoor service. They are offered in single or three-phase ratings from 5 to 6000 kva, 300 to 6000 amp and 1201 to 34,500 v. Reactor has cable-support columns of polyester-glass-resin cleats and epoxy-resin tie rods to provide high compressive and tensile strength. Units will withstand up to 33⅓ times normal full load current for 5 seconds. Asymmetrical instantaneous short circuit currents conform with ASA standards. Made by **Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa.**

▲ For more details circle NED-164 L5 on enclosed inquiry slip ▲

Dial Gages & Gage Setters

Boice Mfg. Co.—Specific details on line of snap, bore, large diameter and length gages and their companion Setmaster gage setters are found in illustrated 16-page catalog No. 55 and supplementary price list. Ordering information and ruled sketch sheets for presentation of gaging problems are included.

▲ For more details circle NED-165 L5 on enclosed inquiry slip ▲

PORTABLE MACHINE CUTS THREADING COSTS!

Fully illustrated booklet shows how the Oster No. 582 "Tom Thumb" Portable Pipe Machine reduces maintenance costs in large and small shops alike. Contains time studies, cutaway views, design features, specifications. Send for your copy today!

THE OSTER MANUFACTURING CO.
Main Office and Factory: Box 4326-P, Cleveland 22, Ohio
New York Factory Branch Sales and Service, 25-36 Jackson Ave. Long Island City 1, N. Y.

BUILDERS OF COST-REDUCING THREADING EQUIPMENT SINCE 1893

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"ONE MAN CREW"

When you see PORTELVATOR (R) (the handy Hamilton portable elevating table) doing the lifting and moving jobs which previously required the combined strength of three or more husky men you will know why so many present users call it a "one man crew."

(Prices start at $155.00*)
Get one—and start it to work in your operation.

WANT THE COMPLETE FACTS? Write for Bulletin No. 5411—Address The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio.

IT'S A Hamilton Tool
USE IT WITH CONFIDENCE

*Prices subject to change without notice.

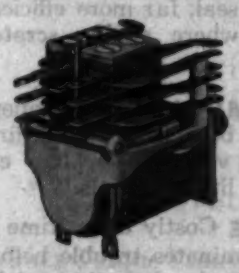
▲ For more details circle NED-167 L5 on enclosed inquiry slip ▲

OHMITE AMRECON® RELAYS

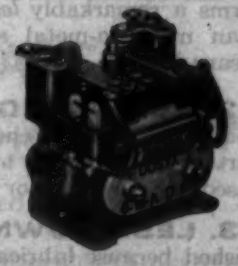
High quality, general purpose relays featuring compactness, dependability and long life!

MODEL DO
Ideal for mobile equipment and aircraft. Contact Rating: 10 amp at 115 VAC or 32 VDC noninductive load.

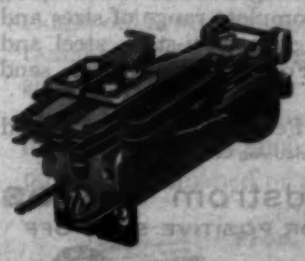
MODEL DOS
Meets rigorous aircraft standards. Contact Rating: 15 amp at 115 VAC or 32 VDC noninductive load.



MODEL TKL
Miniature of long telephone type relay. Contact Rating: 1 amp at 115 VAC or 32 VDC noninductive.



MODEL DOSY
Twin coils provide extra sensitivity. Contact Rating: 15 amp at 115 VAC or 32 VDC noninductive load.



MODEL TG
Use where fine adjustment is needed. Contact Rating: 1 amp at 115 VAC or 32 VDC noninductive.

61 TYPES AVAILABLE FROM STOCK

Write for Catalog R-10

OHMITE® MANUFACTURING COMPANY
3620 Howard St., Skokie, Ill.

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Learn how by writing for your FREE copy of USS GERRARD'S new 36-page Blue Book of Packaging — today!

GERRARD STEEL STRAPPING DIVISION, UNITED STATES STEEL CORPORATION
4717 South Richmond Street, Chicago 32, Ill.

USS GERRARD
ROUND STEEL **STRAPPING** FLAT STEEL
UNITED STATES STEEL

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How Rockwell-Nordstrom Valves Cut Maintenance Costs

Here are three good reasons why Rockwell-Nordstrom valves are used in thousands of process and manufacturing plants to cut valve maintenance costs (first cost, too, is often actually less than ordinary valves):

1. LONGER LIFE . . . LEAKPROOF Rockwell-Nordstrom valves cost less to use because *pressurized lubrication* eliminates metal-to-metal friction . . . the major source of costly valve wear. Pressurized lubricant in the special *Sealdport** grooves also forms a remarkably *leakproof* seal, far more efficient than metal-to-metal seating where a tiny scratch means leakage.

2. RESEATING ELIMINATED Frequent and costly reseating eliminated because the seats (first part to wear out in ordinary valves) are *never* exposed to corrosive or erosive line materials.

3. LESS DOWN TIME Costly down time is slashed because lubrication eliminates trouble before it starts. Stuck, galled or jammed valves that might tie-up production are never a problem—the plug can be hydraulically jacked for *instant* quarter-turn operation. And they can be lubricated, and adjusted under pressure.

Rockwell-Nordstrom, *the original* lubricated plug valves, are available in a complete range of sizes and pressure-temperature ratings in semi-steel, steel and corrosion-resisting metals. For more information, send the coupon today.

Canadian Valve Licensee: Peacock Brothers Limited

*A registered trade mark of Rockwell Manufacturing Company

Rockwell-Nordstrom Valves
LUBRICANT SEALED FOR POSITIVE SHUT-OFF

ROCKWELL MANUFACTURING COMPANY
Pittsburgh 8, Pennsylvania
Dept. 2-L

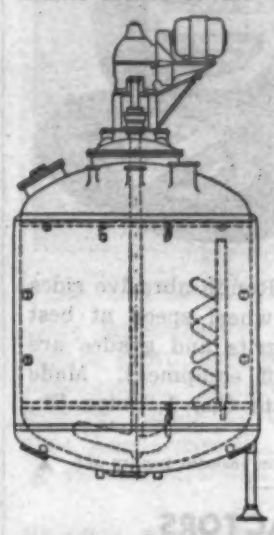
☐ Please send me Bulletin V-215.
☐ Please send name of nearest Rockwell-Nordstrom industrial distributor.

Name_____ Title_____
Company_____
Street_____
City_____ Zone____ State_____

▲ For more details circle NED-170 L5 on enclosed inquiry slip ▲

GLASSED STEEL REACTORS
standard 3000 and 4000-gal models are resistant to most acids, alkalies

Improvement made in series R standard glassed steel reactors consists of drive support mounted on a separable center cover. This design permits removal of the drive and agitator assembly without disturbing nozzle connections. Reactors, available in extended line which includes 3000 and 4000-gal models, have nine nozzles from 3 to 10-in. diameter for operating flexibility. Manhole near the vessel side is 18-in. in diameter.

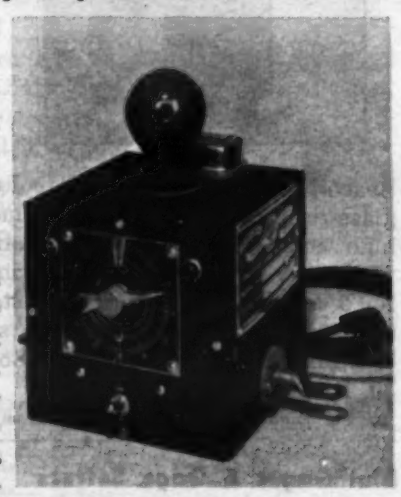


Bottom outlet is offset from center, permitting the agitator to sweep settling material clear of the outlet. Jacket design provides for two sets of five couplings, located on opposite sides for assembly of utility lines. Handhole openings for cleaning and inspection of the jacket are provided.

At temperatures up to the boiling point the glassed steel construction is resistant to all acids except hydrofluoric and alkalies to pH 12. Vessels are rated for temperatures to 350° F with internal pressures from full vacuum to 100 psi, coincident with 90 psi jacket pressure. Made by **Pfaudler Co.**, Dept. NED-2, 1000 West Ave., Rochester 3, N. Y.

▲ For more details circle NED-171 L5 on enclosed inquiry slip ▲

ELECTROPLATING TIMER
for short cycle precious-metal work



Precision timing of short cycle precious-metal electroplating is function of line of timers. Instrument starts timing automatically when work contact is made, and automatically resets when work contact is broken. Expiration of predetermined time cycle is signalled by a red light and buzzer. Standard timers available from stock are 0-1-minute models with amperage load 8-45 or 18-100, 0-3-minute models with 8-40 or 18-100 amperage load, and 0-5 minute models with 8-40 or 18-100 amperage load. Made by **Technic Inc.**, Dept. N, 39 Snow St., Providence 3, R. I.

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MEASURING TENSION IN A MOVING WIRE WITH A DILLON DYNAMOMETER

Just one of more than 100 different uses for this accurate tensiometer. 13 different capacities from 0-500 lbs. up to 0-100,000 lbs. 5" dial model measures only 8¼" x 6¼" x 3". Dial protected by shatterproof crystal. Equipped with red maximum pointer. 10" dial size also available.

Instant reading direct in pounds. No levers. No separate charts. Overload protected.

WRITE TODAY FOR FULL COLOR BROCHURE AND PRICES

W. C. DILLON & CO., INC. 14620NE Keswick St., Van Nuys, Cal. (Suburb of Los Angeles)

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NEW MINIATURE
Low Capacitance
SWITCHING RELAY

- Low Capacity Blades for High Frequency Switching
- Switches Mounted on Ceramic Separators

TYPE MLC

Capacitance (with 1 Form "A" switch): Capacitance between open contacts .75 mmfd; Capacitance between closed contacts 2.0 mmfd; Capacitance from contact to ground 1.25 mmfd.
Coil Resistance: Up to 6500 ohms (No. 44 AWG wire).
Contact Rating: 3 amps. @ 28 VDC max. Suitable for low level audio or r.f. loads. Contact material dependent on application.
Contact Combination: Standard, up to 1 Form "C".
Shock: Meets requirements of MIL-R-5757B.
Vibration: 10G up to 500 CPS.
Size: 23-32 W., 1⅝" L., 1⅜" H. with 1 Form C.
Applications: For guided missiles, h.f. communications equipment, etc.

Send For Details

Comar ELECTRIC CO.
3349 ADDISON STREET
CHICAGO 18, ILLINOIS

RELAYS • SOLENOIDS • COILS • TRANSFORMERS • SWITCHES • HERMETIC SEALING

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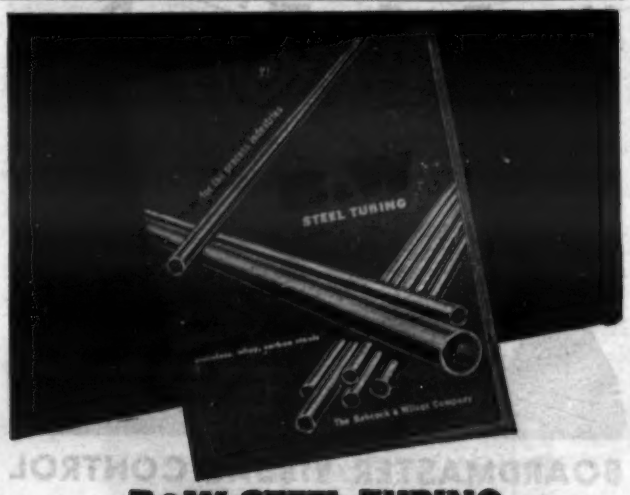

B&W STEEL TUBING FOR THE PROCESS INDUSTRIES

Applications, properties and fabrication data are included, for carbon, alloy and stainless steel tubing, in B&W Technical Bulletin 408.
Write today for your copy.

TA-5064 LP

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
General Offices: Beaver Falls, Pennsylvania
Plants and Products
Beaver Falls, Pa.—Seamless Tubing; Welded Stainless Steel Tubing
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Milwaukee, Wis.—Seamless Tubing; Welded Stainless Steel Tubing; Seamless Welding Fittings

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Solid fibre beats out wood, metal, plastic on tough job

The highly competitive baking industry is now using solid fibre bread trays to reduce shipping costs from bakery to retail outlet.

Why fibre board instead of wood, metal, or plastic? It's less costly — and a lot lighter than wood or metal. It can be attractively printed. It's sturdy enough to be used again and again. It's moistureproof — can be kept outside, cleaned when soiled. It can be fabricated in most any shape.

Maybe there's a use for light, strong, inexpensive fibre board in your field. Gair will be glad to help you explore the possibilities. Write us.

GAIR — SHIPPING CONTAINERS
FOLDING CARTONS • PAPERBOARD
ROBERT GAIR COMPANY, INC. • 155 EAST 44TH STREET • NEW YORK 17, N.Y.

▲ For more details circle NED-176 L5 on enclosed inquiry slip ▲

—is the plight of dust and grit when the AIR MASTER is installed on the buffers and grinders in your plant! The AIR MASTER protects employees' valuable health, prevents expensive machinery breakdowns.

The AIR MASTER sucks in dust and grit the moment they fly off the whirling wheels of buffers and grinders. They haven't a chance to get into human lungs or sensitive moving parts and bearings of expensive machinery!

The AIR MASTER is fully self-contained . . . efficient, rugged, dependable. A size for every grinder and buffer. Install an AIR MASTER in your plant!

WRITE FOR CATALOG 55-PD

The Cincinnati ELECTRIC DRILLS · GRINDERS BUFFERS · PORTABLE TOOLS AIR MASTER DUST COLLECTORS

THE CINCINNATI ELECTRICAL TOOL CO.

Division of THE R. K. LeBLOND MACHINE TOOL CO.

▲ For more details circle NED-177 L5 on enclosed inquiry slip ▲

EXCLUSIVE!

YOU CAN RECALIBRATE THE ROCHESTER DIAL THERMOMETER EXTERNALLY

An accidental blow that may knock the thermometer out of adjustment doesn't have to be a serious problem. External recalibration, exclusive with Rochester Dial Thermometers, can be done easily and quickly. Insert the stainless steel stem in any liquid of known temperature and adjust the dial with the set screw attachment. It's done easily and quickly, EXTERNALLY, and is completely accurate.

Other plus features include:

- All parts, except the crystal, are of corrosion-resistant stainless steel.
- Hermetically sealed against moisture and grime.
- All readings are completely legible and accurate.
- Precision bi-metal helices precalibrated to dial before assembly.
- Stem position can be located anywhere around circumference of the dial in the STRAIGHT form thermometers.

Your Rochester representative will be glad to give you additional information, or address your inquiries directly to the Rochester Manufacturing Company, Rochester, N. Y.

Rochester MANUFACTURING COMPANY, INC.

DIAL THERMOMETERS · GAUGES · ARMATURES

▲ For more details circle NED-178 L5 on enclosed inquiry slip ▲

HERE'S THE SURE WAY to stop packages containing stray metal from reaching your customers . . . Allis-Chalmers Electronic Metal Detectors!

Installed at raw material, processing, or packaging stages, these units detect stray metal — magnetic or nonmagnetic — no matter how deeply embedded.

Units fit production setups. Conveyor belts from packaging machines can carry packages through detector aperture at 15 to 600 fpm. Maintenance and operating costs are small.

Get complete information! Call your nearby Allis-Chalmers office, or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-4371

ALLIS-CHALMERS AC

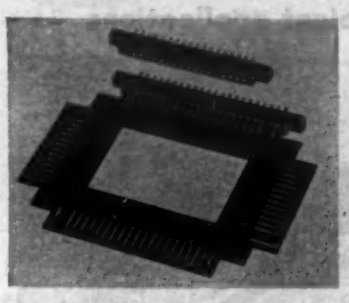
▲ For more details circle NED-179 L5 on enclosed inquiry slip ▲

HYDRAULIC POWER CUTTERS
three models cut up to 1⅜ in.

Designed with a single oil hose and electric controls, Northcutter hydraulic power cutters are made in three models for cutting up to ⅝, 1⅛ and 1⅜-in. diameter steel rod or bar. Few ounces of pressure on the operating button actuates the solenoid valve that sends oil to the cutter head. Both moving and stationary blades are identical. Pressure lubrication is furnished to moving parts. Complete unit is 2⅝ in. diameter and 6 in. long without handle, weighs 8 lb and can be base mounted f·r bench use. Made by **Northcutt Mfg. Co., Kankakee, Ill.**

▲ For more details circle NED-180 L5 on enclosed inquiry slip ▲

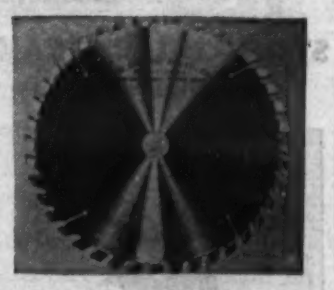
PRINTED CIRCUIT CONNECTORS
with 6, 10, 15, 18 or 22 contacts



Bellows type design of Continental printed circuit connectors accepts 0.054 to 0.071-in. variation of standard 1/16-in. copper-clad printed circuit laminated card. Receptacles, available in single and double row construction with 6, 10, 15, 18 or 22 contacts, can be ordered to accommodate ⅛-in. board. Wiring styles include solderless wire wrap, solder lugs or taper pins for AMP 53. Mineral-filled Melamine, Plaskon-reinforced (glass) alkyd 440A and Orlon-filled diallyl phthalate molding compounds are available. Made by **DeJur-Amsco Corp.**, Dept. NED, 45-01 Northern Blvd., Long Island City 1, N. Y.

▲ For more details circle NED-181 L5 on enclosed inquiry slip ▲

CARBIDE TIPPED SAW BLADE
for miter cutting applications



Smooth end cuts are obtained with the carbide tipped saw blade for precision miter cutting of moldings, hollow and solid plastic tubing and other composition materials. Safety hazard of small end pieces propelled at high speed by conventional blades is eliminated. This blade cuts with a clean, no-chip edge, allowing the end piece to drop beside the blade. Made by **A. W. Forrest Mfg. Co.**, 162 State Highway 17, Rutherford, N. J.

▲ For more details circle NED-182 L5 on enclosed inquiry slip ▲

an ACCO product

A Better Value— WRIGHT Electric Roller Chain Hoist

This hoist has the fewest number of wearing parts. It is provided with a self-locking, double-worm gear which acts as its own load brake. And it has these additional important features:

- Spring-set, shoe-type motor brake, clam shell type
- Phosphor bronze precision-cut worm gears
- Hardened steel-alloy, precision-cut and ground worms
- Oversize precision ball bearings
- Ampco bronze, precision-cut worm gear
- Extra-large, hardened, nickel-chrome steel chain sprocket
- Alloy steel roller chain, special high tensile
- Ball bearings in hook swivel
- Forged steel-alloy hook-swings and swivels

Write our York, Pa., office for Bulletin DH-304 for the full story

ACCO Wright Hoist Division AMERICAN CHAIN & CABLE

York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

for Better Values

▲ For more details circle NED-183 L5 on enclosed inquiry slip ▲

- ★ Heavy gray iron casting, accurately machined surfaces.
- ★ Power factor—15 times air line pressure of 5 to 150 lbs.
- ★ Throat clearance to center of 10" diam. circle.
- ★ Ram clearance 0 to 5", stroke 5/8", table 5" x 5".

This useful, high quality No. 80 SPEEDY AIR PRESS is the last word in air power engineering—the result of 34 years of specialization in diaphragm compression. Extremely sturdy, it does dozens of jobs formerly handled by expensive presses—and does them more quickly, easily and economically. Operated by Speedy Foot Control, Hand, or Fingertip Valves. Order from your supplier or write direct.

Write for New Catalog of Speedy Air Tools and Accessories

W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

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The smoothest handling lift truck ever built

with YALE

Torque Transmission

[FULLY AUTOMATIC]

YALE Torque Transmission provides, through torque conversion, the best all-purpose means of attaining "power when needed." YALE Torque Transmission eliminates clutch pedal and gear-shifting—increases operator efficiency while reducing operator fatigue. Other features of YALE KGA51 Series Lift Trucks include: only two drive controls (accelerator and directional control lever); inching control at high engine speeds; lowered cowl for maximum visibility; lowered seat for more comfort and safety. Available in capacities from 3000 to 8000 lbs.; Gas, Diesel or LP-Gas powered; cushioned or pneumatic tires.

Free, Fact-Filled Booklet

For your copy of this informative booklet, which gives the "Inside Story" of YALE KGA51 Trucks, write: The Yale & Towne Manufacturing Co., Roosevelt Blvd., Philadelphia 15, Pa., Dept. 3711.

YALE* INDUSTRIAL LIFT TRUCKS AND HOISTS

Gas, Electric, Diesel, LP-Gas Industrial Lift Trucks • Worksavers Warehousers • Hand Lift Trucks • Hand and Electric Hoists

*REG. U. S. PAT. OFF.

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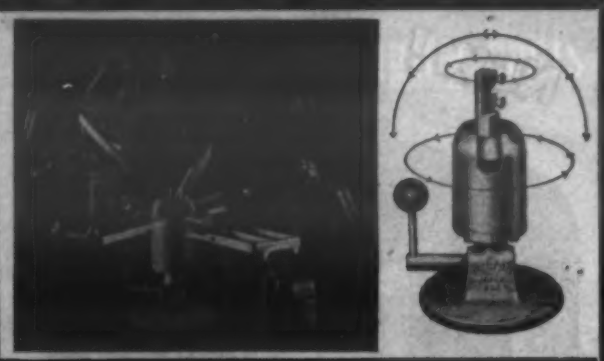

Position is everything!

Wilton PowRarms provide the universal positioning and convenient approach needed to save time and money on assembly, inspection and other hand operations. PowRarms hold work at *any* angle in all three planes, *lock in position instantly*, and leave both hands free. They cost much less than custom fixtures, adapt perfectly to changes in tooling. Use on benches or conveyors. Five models to save you time, labor, and tooling cost.

ATTACH THIS AD TO YOUR LETTERHEAD AND MAIL FOR A FREE DEMONSTRATION OR LITERATURE NED-11

WILTON TOOL MFG. CO., INC.
Schiller Park, Ill.
SOLD BY LEADING DISTRIBUTORS THE WORLD OVER

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Bendix-Friez HANDLES

SOLVE CARRYING-CASE LIFTING PROBLEMS!

Here's a handle that's "built to take it."

If you manufacture anything that has to be shipped in a carrying-case, and you have been having handle problems, here's your answer.

This patented Bendix-Friez* handle meets MIL-C-4150-A and MIL-T-945A specifications. It is rust-proof, rattle-proof, withstands shock and vibration. It is strong enough to lift 200 pounds with an adequate safety factor. The grasping handle has a special insulating sleeve that will not crack or chip at −65°F. or become sticky or tacky at +160°F.

Attaching this Bendix-Friez handle is a simple matter, too. Nuts and bolts, welding or other suitable fastening may be used. Available in two sizes. Small or large quantity orders. Write for full details and specifications. *Reg. U. S. Pat. Off.

SNAPS BACK
Reclaiming spring forces grip down against surface and holds it firmly in place.

NO PINCHING-EXTRA STURDY
Grip opens to 90° position. Each handle lifts 200 lbs. with ample safety factor.

Friez INSTRUMENT DIVISION BALTIMORE 4, MD. — Bendix AVIATION CORPORATION

1444 TAYLOR AVE., BALTIMORE 4, MD.
Export Sales Bendix International Division, 205 E. 42nd Street New York 17, N. Y., U. S. A.

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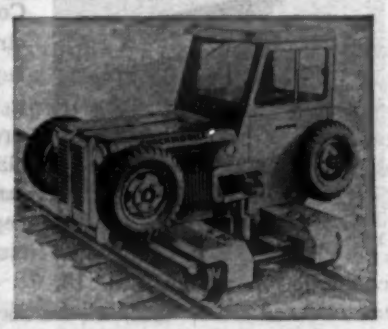
VARIABLE SPEED PULLEY
for limited space applications

Speed ratios up to 2 to 1 are obtained with the E-1350 variable speed pulley, a ¼-hp unit for limited space applications. It can be mounted with the belt take-off close to the motor, or it can be reversed with the belt take-off in an overhung position. Pulley uses an A-section belt and has a maximum bore of ⅝-in. with keyway. Bronze oil-impregnated bearings eliminate need for lubrication, but where applications demand lubrication, pulley can be equipped with a pressure grease fitting. The 3 5/16-in. long by 3-in. diameter pulley can be used with various sliding bases or shifting mechanisms. Made by **Lovejoy Flexible Coupling Co.**, 4803 W. Lake St., Chicago 44, Ill.

▲ For more details circle NED-188 L5 on enclosed inquiry slip ▲

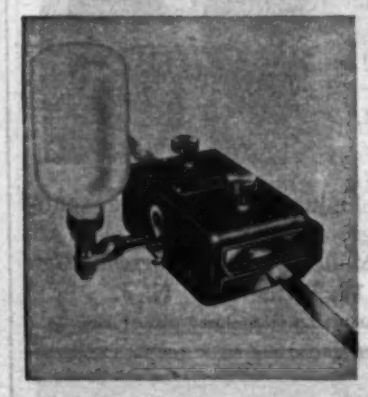
RAILROAD SWITCHER-HAULER
for industrial plant applications



Designed for use on factory sidings, mines, storage areas and other industrial railroad trackage, this heavy duty Trackmobile operates on track and road or ground. It travels on roadways, across track and on level ground on four power driven retractible pneumatic-tired wheels. When latter are in raised position, the machine rests on its steel rail wheels for pulling heavy railroad cars, switching and spotting operations. Tests have shown that it can pull three loaded coal cars, about 225 tons, up a 2-per cent grade. Cab is fully enclosed for year-around use. This completely redesigned Trackmobile is made by **Whiting Corp.**, S. Lathrop Ave., Harvey, Ill.

▲ For more details circle NED-189 L5 on enclosed inquiry slip ▲

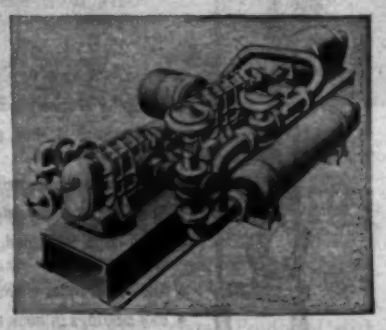
STOCK OILER-STRAIGHTENER
handles stock up to 3 in. wide



Cleaning, straightening and lubricating of stock up to 3 in. wide is function of Jaco light duty oiler-straightener. It will remove coil set for smooth feeding, but will not straighten or flatten badly kinked material. Neoprene wipers clean the stock as it enters the case where five rollers induce a double reverse bend as the material is pulled through. Three lower rollers pick up oil from the bottom of the case and apply it to the stock. The polyethylene reservoir has a 1-pt capacity. Excess oil is removed by felt pads. Made by **Jaco Devices, Inc.**, 95 High St., Hingham, Mass.

▲ For more details circle NED-190 L5 on enclosed inquiry slip ▲

TWO-STAGE COMPRESSOR
100 to 4000 cfm models



Standardaire intercooled compressor for compression of air or other gases includes a pair of positive displacement axial-flow blowers, arranged to work in two stages to boost discharge pressure to range from 15 to 50 psi. With appropriate inlet pressures, discharge pressures up to 125 psi are possible. Compressor is available in capacities from 100 to 4000 cfm, ranging from 15 to 600 hp. It is equipped with mechanical seals for gas service or labyrinth seals for air. Made by **Read Standard Corp.**, Blower Engineering Dept., 370 Lexington Ave., New York 17, N. Y.

▲ For more details circle NED-191 L5 on enclosed inquiry slip ▲

NEW 1956 MODEL

UPGRADER JUNIOR
STEAM CLEANER

More capacity, pressure—outperforms big, costly machines. Cleans, disinfects, deodorizes in one quick, simple operation. Dissolves and whisks away grease, road-tar, clay. A joy to use. Works for pennies, saves $$$. Does every job faster. One-man operated. Get new Bulletin No. 594B. Jobbers wanted in areas still open.

ONLY **$429** COMPLETE

VAPOR HEATING CORPORATION
80 E. Jackson Blvd., Chicago 4, Ill.
In Canada: Vapor Car Heating Co. of Canada, Ltd., 65 Dalhousie St., Montreal 3

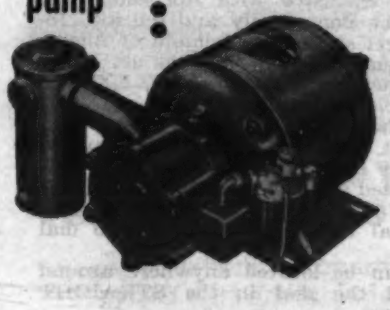
▲ For more details circle NED-192 L5 on enclosed inquiry slip ▲

NEED VACUUM?

use the COMPACT pump

The Motoair Pump is built integral with its own motor to take the least amount of space and to avoid extra assembly necessary with separate drive.

Automatic lubrication complete with re-circulating system and visible oil reservoir is a feature of



the MOTOAIR®

Instantaneous suction and positive action is provided with the Motoair, being directly driven at the same rpm. as the motor.

ASK FOR CATALOG with performance data on various sizes of pumps. Oil-less models also available.

824

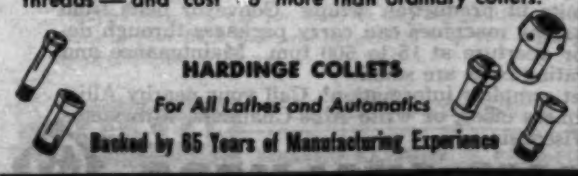
NEW JERSEY MACHINE Corporation
FACTORY SALES AND SERVICE BRANCHES
CHICAGO CINCINNATI LOS ANGELES
1550 WILLOW AVENUE, HOBOKEN, N. J.

▲ For more details circle NED-193 L5 on enclosed inquiry slip ▲

HARDINGE ELMIRA, N.Y. COLLETS for LATHES and MILLERS

Precision work requires precision collets. HARDINGE Draw-in Collets assure you of all-essential accuracy plus durability and economy . . . performance that has established leadership since 1890.

HARDINGE Collets symbolize accuracy, long life, and low cost because they are hardened and ground both internally and externally, have heat treated threads — and cost no more than ordinary collets.



HARDINGE COLLETS
For All Lathes and Automatics
Backed by 65 Years of Manufacturing Experience

HARDINGE BROTHERS, INC., ELMIRA, N. Y.

▲ For more details circle NED-194 L5 on enclosed inquiry slip ▲

Silicone

RUBBER PARTS
may be your most efficient, most economical way to:

★ REDUCE FABRICATING COSTS
★ MEET "TOUGH" SPECIFICATIONS
★ IMPROVE PRODUCT QUALITY

Get this free
ILLUSTRATED INFORMATION

16-page booklet with data insert on Silicone Rubber, tells how this amazing material solves parts problems for manufacturers of many types of products. . . . Contains complete details on Colonial's fast, efficient rubber compounding and molding. Write to:

COLONIAL RUBBER COMPANY
Ravenna, Ohio

▲ For more details circle NED-195 L5 on enclosed inquiry slip ▲

Cut production costs with

FEEDMATIC ROTARY HOPPERS!

Continuous Automatic Parts Feeder eliminates high-cost hand feeding! This compact automatic hopper efficiently feeds small parts—reduces assembly costs on all high-volume operations! Feedmatic continuously delivers parts in proper position for assembly through attached feed tracks. Feeds 3 to 5 times faster than hand-feeding! Hoppers can be designed with as many as four separate tracks.

Use Feedmatic for high-speed parts delivery to machine tools, presses, grinders, special machines—or for sorting, counting and inspection. Find out how you can cut costs in your operation with Feedmatic. Write today and send samples of your small parts!

WRITE TODAY FOR DESCRIPTIVE BULLETIN!

FEEDMATIC INC.
22517 TELEGRAPH ROAD DETROIT 19, MICHIGAN

▲ For more details circle NED-196 L5 on enclosed inquiry slip ▲

AVAILABLE IN FOUR TIME RANGES
7 MINUTES
14 MINUTES
28 MINUTES
56 MINUTES
WITH SIGNAL LIGHT
WITH "HOLD" FEATURE
If desired

CURRENT RATING: ALTERNATING CURRENT 115 or 230 VOLT, 1/2 H.P. SINGLE PHASE, 10 AMPERES, INDUCTIVE OR NON-INDUCTIVE.

CISSELL
Heavy Duty
TIME SWITCHES

Patent Applied for

ILLUSTRATED ABOVE:
MODEL T-145W $12.50
T-145 (Less Signal Light) . . $10.50
T-102 (For mounting directly on sheet metal panel) . . . $ 8.50

ACCURATE AND DEPENDABLE

More than just a warning device, Cissell Time Switches open . . . or close . . . an electrical circuit at the end of a specified time period. They are adaptable to a wide variety of mountings. GUARANTEED for 1 year.

We welcome an opportunity to prove that we have the answer to YOUR time switch problem. Contact us *now* for detailed information.

W. M. CISSELL MFG. CO., INC.
831 S. First St., P. O. Box 1143
LOUISVILLE, KENTUCKY

▲ For more details circle NED-197 L5 on enclosed inquiry slip ▲

HIGH SPEED STEEL BLADE for portable band saw use

Such hard metals as stainless steel, carbon tool steel, nickel and high speed tool steel can be cut with this high speed steel blade developed for use with the model 524 Porta-Band portable band saw (*NED, Apr. '54*). Blade is available with 6, 9, 12 and 16 teeth per inch. While conventional blades are 0.025-in. thick, these blades of M-2 Hi-Speed steel are 0.020-in. thick. Made by **Porter-Cable Machine Co.**, 59 Exchange St., Syracuse 8, N. Y.

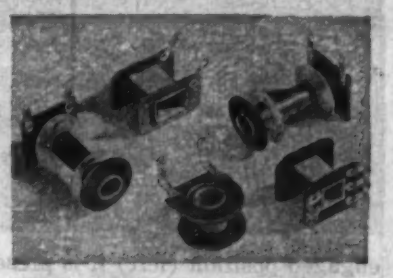
▲ For more details circle NED-198 L5 on enclosed inquiry slip ▲

SHOP STOOL offered in seven heights

Each die-formed leg on the Ajax shop stool is arc welded at two points to the 16-in. foot ring and stretchers for strength. Top of each leg is held by two steel rivets and a projection weld, while the bottom of the leg has a rubber cushioned steel glide. Stool is made in seven fixed heights from 18 to 30 in. Optional equipment includes adjustable backrest of metal or plywood that can be adjusted vertically and horizontally, round wood seats, leatherette or rubber cushion seats and special finish. Made by **Ajusto Equipment Co.**, Dept. D, 2144 Madison Ave., Toledo 2, O.

▲ For more details circle NED-199 L5 on enclosed inquiry slip ▲

COIL BOBBINS have lug terminals attached



Coil bobbins with any desired number of attached lug terminals can be supplied in production quantities. They are suitable for printed circuit work also. Bobbins can be insulated from the coil winding by washers as an integral part of the assembly. Bobbins are available in any size with round, square or rectangular core and flanges of all shapes. Cores are wound from dielectric craft, fish paper, acetate or combinations including DuPont Mylar. They can also be resin impregnated. Made by **Precision Paper Tube Co.**, Dept. NDC, 2035 W. Charleston St., Chicago 47, Ill.

▲ For more details circle NED-200 L5 on enclosed inquiry slip ▲

For Windows—Jalousies—Stormdoors

DOR-TITE
Sponge Rubber Stripping

keeps out moisture, dirt, air

It insulates! It seals! It cushions! DURKEE-ATWOOD DOR-TITE is a *soft, resilient* sponge rubber stripping. It applies readily because of a factory-process, wet-type adhesive back. DOR-TITE won't stretch . . . won't creep . . . won't pull loose . . . available in needed width and thickness.

SPONGE RUBBER STRIPPING—
Easy application, comes in exact width and thickness needed . . . requires no trimming. Factory processes for wet-type adhesive back requires no solvents. Dry back activated type also available. Patented non-stretch fabric back material eliminates creeping.

BULK SPONGE—
Uniform cellular structure eliminates waste in re-working. Comes in 36" width. In three densities—soft and medium (3/32" to 1" thick) and firm (3/32" to ½" thick).

Write Dept. NE-11

The Little Professor Says . . . "Let us send you samples of DOR-TITE for your product application."

DURKEE-ATWOOD CO.
MAin 0441 Minneapolis 13, Minnesota

▲ For more details circle NED-201 L5 on enclosed inquiry slip ▲

DON'T THROW AWAY
WORN OUT
PLASTIC COATED GLOVES

GLOVCO's "Over-Kote" plan of cleaning, repairing and recoating makes them safe and good as new at fraction of original cost.

This is a new service that will save money for you. Plants are saving 90% of the plastic-coated gloves they once threw away. We guarantee satisfaction.

DON'T SCRAP LEATHER OR FABRIC GLOVES!
GLOVCO reclaims worn, dirty leather-faced gloves, welders' gloves, mitts, hand pads. Also hot mill, terry cloth, asbestos aprons and gloves, sleeves, drop cloths, etc. Service used in thousands of plants. Write for details of FREE trial demonstration.

U.S. INDUSTRIAL GLOVE CORP.
9352 Roselawn Ave., Detroit 4, Mich.

▲ For more details circle NED-202 L5 on enclosed inquiry slip ▲

Almost 7-Ft. long . . . yet it
TIERS IN 6-FT. AISLES!

IT'S MAGIC the way this RAYMOND Truck tiers in aisles narrower than its own length with load!

Yet, day after day this truck does just that in hundreds of plants and warehouses.

Gives you up to 50% more storage space

HERE'S THE SECRET . . .
The RAYMOND Truck is extremely compact, has a patented off-set drive wheel with 200° turning arc. This permits it to rightangle stack from 6-ft. wide aisles . . . gives you up to 50% more storage.

Its light weight allows safe operation on low-capacity elevators and floors. 51" free lift enables it to tier in low-ceiling areas without increasing over-all height.

NEW LEASE-PURCHASE PLANS!
Now it's easy for you to own or lease any RAYMOND Electric Truck. Three new plans permit you to rent or purchase over 1 to 3-year periods. Ask your RAYMOND representative about these plans!

MAIL COUPON!

The RAYMOND CORPORATION
4162 Madison St., Greene, N.Y.

☐ Please send Bulletins on 2,000 and 3,000 lb. Tiering Trucks.
☐ Please have your representative call.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

▲ For more details circle NED-203 L5 on enclosed inquiry slip ▲

Every plant needs an

Engravo graph

15,000 IN USE!

Send for Booklet No. 26 describing portable and bench type (200 lb.) pantographs

Immediate engraving with unskilled labor.
• Name plates • Dials • Panels
• Tools • Parts

new hermes ENGRAVING MACHINE CORPORATION
13-19 UNIVERSITY PLACE • NEW YORK 3, N. Y.

SPEEDS CATERPILLAR-BUILT TRACTOR EQUIPMENT

The ease and speed with which dies can be changed on Steelweld Presses and necessary adjustments made have proven a big asset in obtaining high production of a great variety of steel parts for scrapers, rippers, bulldozer blades and wagons at the Joliet Plant of Caterpillar Tractor Co.

STEELWELD BENDING PRESSES CATALOG No. 2010

Send for free copy of catalog No. 2010.

THE CLEVELAND CRANE & ENGINEERING CO.
6655 E. 281st St., Wickliffe, O.

STEELWELD PRESSES

▲ For more details circle NED-204 L5 on enclosed inquiry slip ▲

THE Improved FLEX-A-FOAM DUST MASK

Your best ounce of protection against

IRRITATING DUST

HERE'S WHY:

★ Workers wear it Lightweight (just 1 ounce), snug, comfortable and easy-to-breathe through, Flex-a-Foam is the *one* respirator your workers actually *welcome*.

★ It's super-efficient Flex-a-Foam's pure latex filter protects against nuisance dust particles 100 times smaller than the eye can see!

★ It's simple Only four sturdy, long-wearing parts — all interlocking — all *unconditionally* guaranteed.

★ And—it's economical *Low first cost* — less than any other *quality* respirator on the market. *Low upkeep* — washable filter outlasts throwaway type by more than 100 to 1!

Dust Protection Your Workers Will Welcome and *Wear*

SAMPLE STILL ONLY $1.40 POSTPAID INDUSTRIAL PRICE ONLY

FLEX-A-FOAM DUST MASK

FLEXO PRODUCTS, INC., CLEVELAND 13, OHIO

▲ For more details circle NED-205 L5 on enclosed inquiry slip ▲

AUTOMATIC PROCESS CONTROL provides means for checking and adjusting individual temperatures

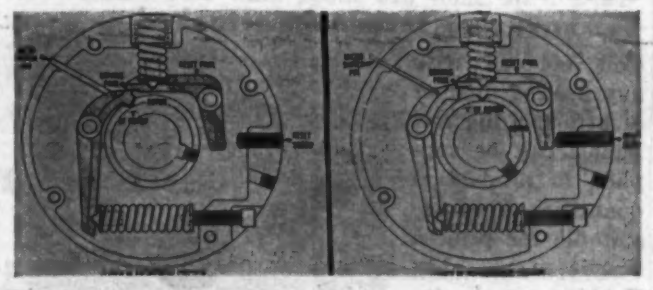
Automatic scanning and control of process work is afforded by this Wheelco Control Center. Designed around the flexible Multronic Capacitrol, neon pilot lights, pulse-actuated stepping switch, pulsing timer and small two-tube nonindicating controllers, center provides continuous operational temperature check and the means for adjusting individual temperatures whenever any point is out of limits. It has the capacity for scanning and controlling up to 72 stations.

Both visible and audible alarm is given should any station be out of limits. Temperature sensing element is a thermister with small mass and negative temperature coefficient. The model 245 instrument incorporates dual single-pole double-throw switch action with a spread between setting indexes from 0 to 10 per cent of the scale. Made by **Barber-Colman Co.**, Wheelco Instruments Div., 1514 Rock St., Rockford, Ill.

▲ For more details circle NED-206 L5 on enclosed inquiry slip ▲

OVERLOAD RELEASE CLUTCH switch shuts down power supply

Trig-O-Matic overload release clutch prevents overloads in power drives by providing torque limits without any wearing parts. When the clutch is in the



engaged position (left) it is preset to a definite torque limit through use of two coil springs, adjustable to any required torque range accommodated in the eight basic units available. When the torque limit is overcome by an overload (right), the driving pawl is disengaged and locked out by a reset pawl. At the same time a Micro Switch is actuated and power supply is shut down or a signal is provided. Made by **Centric Clutch Co.**, Trig-O-Matic Dept., U.S. Route 9 at Main St., Woodbridge, N. J.

▲ For more details circle NED-207 L5 on enclosed inquiry slip ▲

If it has a hole through it YOU CAN HANDLE IT FASTER *with the* SABIN *Coil* TRUCK

A handy truck and a real labor saver in handling Wire Coils, Strip Coils, Wheels, Tires, Lathe Chucks or Face Plates—in fact anything with a hole through it.

You simply run truck up to article, passing arm through hole—then an easy pull back on handle picks up load. Follower wheel minimizes trucking effort.

We also manufacture many other types of One Man Trucks. *WRITE FOR BULLETIN NO. 48*, showing complete line.

THE SABIN MACHINE CO.
6536 Carnegie Ave.
CLEVELAND 3, OHIO

▲ For more details circle NED-208 L5 on enclosed inquiry slip ▲

CUT COSTS . . . SPEED PRODUCTION with GTS FULLY AUTOMATIC MARKING

The tube marker shown here was designed by GTS engineers for major automotive manufacturers.

It dramatically cuts marking costs, speeds production, and insures accurate, uniform marking—handling as many as 2500 to 3000 mild steel thin-walled tubes per hour.

This is only one item in a proud list of designing triumphs. Write today and state when you want a GTS Sales Engineer to call—without obligation—to discuss with you how you save time and money, and insure uniformity, by using the best in modern marking methods.

IF IT'S WORTH MAKING, IT'S WORTH MARKING.

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine Avenue
Chicago 13, Illinois

▲ For more details circle NED-209 L5 on enclosed inquiry slip ▲

NEW DESIGNED BY BOSTON Gear to give you *Certified* MAXIMUM HORSEPOWER PER DOLLAR — by actual test

- 20% Less space . . . less weight
- Higher gearing efficiency
- Finned housings for better cooling
- Fan cooling optional on larger sizes

100 SERIES REDUCTORS RATIOMOTORS

NEW COMBINATION Construction

Permits removal of motor at any time without disturbing gear unit. Also, original motor may be easily replaced with one of special characteristics (explosion-proof, etc.). Saves on maintenance and extends range of applications.

FLANGED REDUCTORS

are Ratiomotors without motors. You buy and install standard end-mounted motors of your own choice.

108 MODELS • 671 DIFFERENT UNITS FROM STOCK

GET NEW CATALOG R-56 FROM YOUR

BOSTON Gear DISTRIBUTOR

or write: BOSTON GEAR WORKS
69 Hayward St., Quincy 71, Mass.

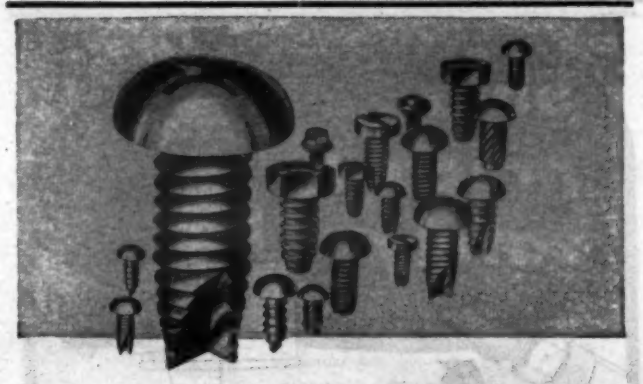
55BG-R-291

▲ For more details circle NED-210 L5 on enclosed inquiry slip ▲

Difficult *PACKAGING* Problems handled with ease.
Let us show you How/PHONE OR WRITE

ALLEGHENY STEELBAND COMPANY
BOX 716 • PITTSBURGH 30, PA. • WAlnut 1-7100

▲ For more details circle NED-211 L5 on enclosed inquiry slip ▲



Production Costs Go Down—Quality Goes Up—When You Use Townsend Tapping Screws

Assembly is easy and fast, costly tapping operations are eliminated when you use Townsend Tapping Screws to obtain secure fastening of metal, plastics, wood, asbestos and composition materials.

Both thread-forming and thread-cutting screws tap their own mating threads, assuring a tight fit that resists loosening under vibration. They may be reinstalled after repeated removals.

Townsend Tapping Screws are available in the types shown here in a variety of head styles with slotted, Phillips recessed and hex heads. If leakproof fastening is desired, these tapping screws can be provided as Tuff-Tite* Screws which have a preassembled neoprene washer that is forced into the hole and around the threads when tightened. Write for bulletin TL-88.

*Trademark

Townsend Company
NEW BRIGHTON, PENNSYLVANIA

▲ For more details circle NED-212 L5 on enclosed inquiry slip ▲

AUTOMATIC CYCLE TIMER adapts to air-operated equipment

This compact automatic cycle timer adapts to any air-operated equipment where consistent, accurate air cycling is required. It can be set to supply a quantity of air for any predetermined time intervals from ¼-second to 60 hours, depending upon model selected. Timer also contains an auxiliary circuit for electrically triggering any outside hopper, selector or solenoid used in conjunction with air equipment. A manual reset digital counter for maintaining constant check on production and a three-way valve with ¼-in. outlets are also contained in unit. Time cycle remains constant regardless of air pressure used. Made by **Model Machine Co., 4729A Hawthorne St., Philadelphia 24, Pa.**

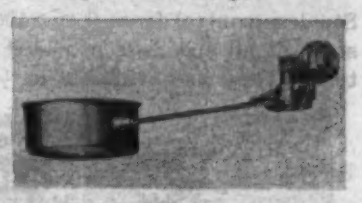
▲ For more details circle NED-214 L5 on enclosed inquiry slip ▲

LOUDSPEAKING TELEPHONE can be used with hands free

Microphone in the base of this loudspeaking telephone picks up the voice or voices using the telephone, while a loudspeaker carries the voice or voices at the other end of the line. Instrument can be used by a person with both hands free, by one moving about while talking or by a number of persons participating in a conversation. To make a call using the loudspeaking arrangement, the caller presses a button, dials in the usual way, but does not lift the hand set. A button is used for "hanging up." A volume control knob is provided. Pressing another button permits use in the conventional manner. Made by **Automatic Electric Co., 1001 W. Van Buren St., Chicago 7, Ill.**

▲ For more details circle NED-215 L5 on enclosed inquiry slip ▲

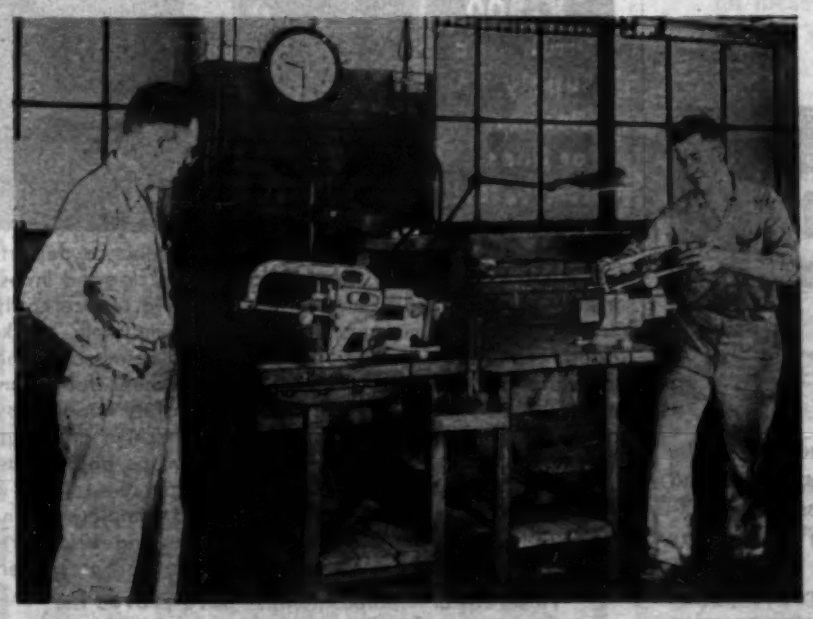
MINIATURE FLOAT VALVE capacity is 1-1/3 gpm at 50 psi



Accurate maintenance of water levels in such uses as tanks, cooling towers, evaporative air conditioning units and evaporative condensers is possible with this miniature float valve. It is offered as an RM-2C assembly with a copper float or as RM-2S assembly with a Styrofoam float. Capacity is 1⅓ gpm at 50 psi inlet pressure. Made by **Robert Mfg. Co., 9025 Venice Blvd., Los Angeles 34, Calif.**

▲ For more details circle NED-216 L5 on enclosed inquiry slip ▲

Which of these two men will give YOU the most work after lunch?



Do you get more work per kilowatt or per unit of elbow grease?

The man with the HAND-I-HACK Power Hack Saw will be the least tired at end of the day.

$195.00
(East of the Rockies)

Get the complete story
Write right now — to

WALLACE SUPPLIES MFG. CO.
1306 Wolfram Street
Chicago 13, Illinois

Agents, Distributors, Dealers; some territories still open

▲ For more details circle NED-213 L5 on enclosed inquiry slip ▲

30% smoother flute finish

Micro-photograph 100 diameters

means faster chip flow

Note how new Wendt-Sonis Flo-Finish (A) eliminates grinding marks. Profilometer readings show new Flo-Finish actually 30% smoother than (B) ground finish usually used on round tools. Chips flow out of flutes quickly and smoothly . . . tools cut faster, provide a better finish, and stay sharp longer. Used on all Wendt-Sonis round tools. Write Department NE-1155 for bulletin.

WENDT-SONIS COMPANY, Hannibal, Missouri

▲ For more details circle NED-217 L5 on enclosed inquiry slip ▲

336,000 miles of extrusions!

Our extruders have turned out enough plastic and rubber extrusions to reach to the moon and halfway back. In compiling this vast experience General Tire's Industrial Products Division has supplied thousands of original equipment manufacturers with just about every known type of extrusion. No job is too large, too small or too complicated for our design and production staff. Perhaps *you* can benefit from the fantastic extrusion mileage we've accumulated down through the years.

For literature or further information write to The General Tire & Rubber Company, Wabash, Indiana, Department A-2.

"From Plans to Products in Plastics and Rubber"

THE GENERAL TIRE
Industrial Products Division
WABASH INDIANA

▲ For more details circle NED-218 L5 on enclosed inquiry slip ▲

Use PROTO Calibrators
To Insure Accuracy of Torque Wrenches

3 Sizes Handle All Requirements

PROTO-Howe Weightograph—direct dial reading. Capacity—833 ft.-lbs. or 10,000 in.-lbs. Also available with 1000 ft.-lbs. or 12,000 in.-lbs. capacity Manual or power type. Also, PROTO-Chapman Inch-Pound Calibrator—balance-beam type. Capacity—3780 in.-lbs. Also, PROTO-Chapman Inch-Ounce Calibrator—balance beam type. For low-torque ratings. Capacity—160 in.-oz.

You can make sure your torque wrenches are set accurately when you use one of PROTO's new calibrators. Regardless of the size of your operation, there is a model to fit your needs. Only PROTO offers these great features—ease of operation and speed of calibration, combined with great accuracy. Write for details to

PLUMB TOOL COMPANY
2276T Santa Fe, Ave., Los Angeles 54, Calif.

"Give your work the PROfessional 'Touch'"

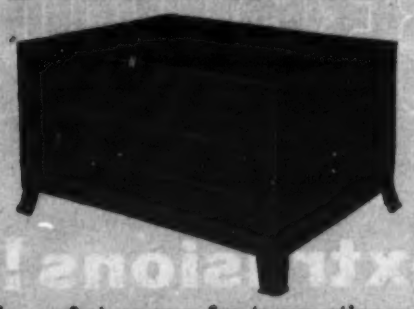
5594

Eastern Factory, Jamestown, N.Y.
Canadian Factory, London, Ont.

PROTO TOOLS

▲ For more details circle NED-219 L5 on enclosed inquiry slip ▲

Heavy-Duty Workhorse of Materials Handling...
PHIL-BOX



The perfect answer for transporting and storing heavy castings, forgings, strip coils, and other parts and bulk materials. The box is 10 gage steel, legs are made of ¼ in. steel plate, and the capacity is 5000 lb.

Erected or collapsed in 20 seconds, boxes may be stacked four-high when full. Special leg design assures stability in stacking, and prevents spreading of sides. Smooth rolled edges and safety lock with safety catch.

Illustrations show how easily the box is erected, collapsed, and stacked. Four collapsed boxes stack in same space as one open box. Collapsed boxes save space on return shipments and in storage. Write for literature.

SALEM-BROSIUS, INC.
16 Arch Street • Carnegie, Pa.

PHILLIPS MATERIALS-HANDLING EQUIPMENT

Manufacturers Since 1863

▲ For more details circle NED-220 L5 on enclosed inquiry slip ▲

ROUGHNESS COMPARATOR
pocket-size, hand-held instrument

This inexpensive surface comparator permits metal surfaces to be compared with a selected standard for roughness under 10-power magnification. The pocket-sized, hand-held instrument greatly emphasizes surface irregularities. When looking in the eyepiece, the user sees a circular image, one-half of which is the standard and the other half the sample being checked. Instrument is self-illuminated and has a focusing lens. Made by **Bausch & Lomb Optical Co.**, 727 St. Paul St., Rochester 2, N. Y.

▲ For more details circle NED-221 L5 on enclosed inquiry slip ▲

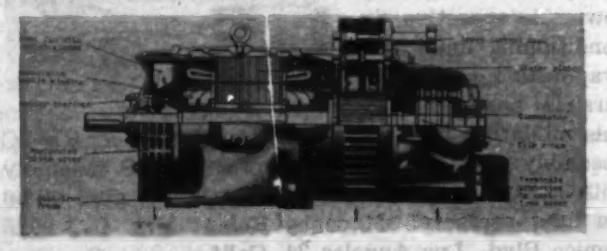
STRONG ABRASIVE WHEELS
for use on portable grinding tools

Safety web backing of spiral-wound rayon auto tire cord insures ample strength in Simex Red abrasive wheels for use in portable grinders. These reinforced resin bonded wheels are made in depressed center or raised hub shapes in 7 and 9-in. diameters by 3/16 and ¼-in. thicknesses. They are applicable for rough, production grinding such as grinding welds, removing flash and bead, cleaning up rough edges and ragged surfaces, and finishing stainless steel. Made by **Simonds Abrasive Co.**, 5514 Tacony St., Philadelphia 37, Pa.

▲ For more details circle NED-222 L5 on enclosed inquiry slip ▲

ADJUSTABLE SPEED MOTOR
operates on alternating current

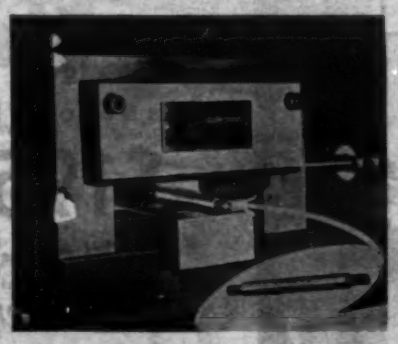
Stepless control from 0 to 2400 rpm with torque constant at all speeds is provided by ACEC-Schrage motors. They are available in ½ to 75-hp ratings for



220 or 440 v, three-phase, 60-cycle operation. Enclosures are dripproof or pipe-ventilated. A large radial fan draws cooling air in at front and discharges it at rear of motor. Speed is controlled by turning a knob manually or by means of a servo unit. Distributed by **ACEC Electric Corp.**, Dept. NED, 40 E. 49th St., New York 17, N. Y.

▲ For more details circle NED-223 L5 on enclosed inquiry slip ▲

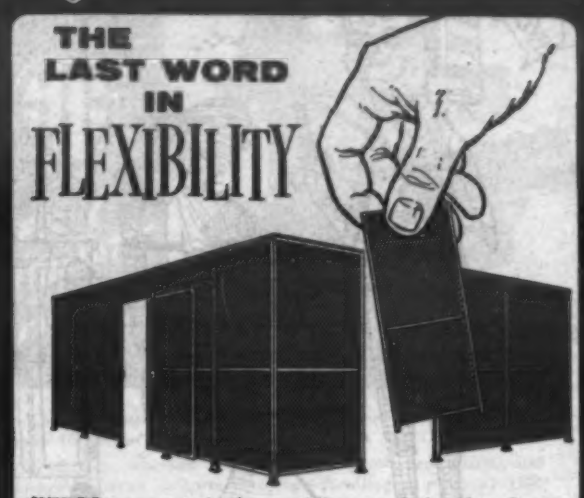
TUBULAR PART MARKER
used in vise of shaper



Round or tubular parts or pieces can be marked by the Shapo-Marker, a device used in conjunction with the ram of a shaper. Main fixture is locked into the shaper vise, and a shaft is mounted in the tool post of the ram. Shaft is connected to the hardened steel block used to apply pressure and push the round piece being marked across the marking dies. An arbor prevents distortion of tubular pieces. Marking dies in the base can be solid or insert style. Replaceable hardened and ground plates set the depth of marking. Fixture can also be used for stamping flat parts by providing a roller instead of a flat block. Made by **M. E. Cunningham Co.**, 1055 Chateau St., Pittsburgh 33, Pa.

▲ For more details circle NED-224 L5 on enclosed inquiry slip ▲

WIPCO WIRE PARTITIONS



WIPCO woven-steel wire partitions are designed to fit any area, regardless of height, location of doors and other openings, etc. Easy and economical to erect, your own men can put them up without outside help! Use them over and over again, salvaging each individual section for use in new erections. Available in *standard* sections from stock—or *custom-built* for any requirement, WIPCO partitions are easy to paint and clean—require little or no maintenance! For increased efficiency and flexibility at lower cost, get the facts on WIPCO wire partitions!

Write Today for Bulletin P-55!

WIRE & IRON PRODUCTS INC.
1727 SIXTEENTH STREET, DETROIT 16, MICHIGAN

▲ For more details circle NED-225 L5 on enclosed inquiry slip ▲

Ship products safely

Protect openings and studs this low-cost way

S.S.White protective plastic plugs and caps are simple, low-cost safeguards against damaged threads, dirt, moisture and leakage. They're easy to use, low in cost, and insure safe, factory-perfect delivery of your products. Also ideal for masking and protection during painting, plating and other production processes.

SAMPLES AND LITERATURE ON REQUEST
Send for Bulletins P-5312 and P-5203 for full details. Samples of your specific size and style of plug or cap on request. Address Dept. 7P.

S.S.WHITE PLASTICS DIVISION
10 East 40th St., New York 16, N. Y.

C-8

S.S.White
PROTECTIVE PLASTIC CAPS and PLUGS

▲ For more details circle NED-226 L5 on enclosed inquiry slip ▲

Cut "DOWN" time and Maintenance Costs

with the NEW K-500 Drain and Supply line Cleaner—for lines from 1¼ to 12

Especially designed for industrial maintenance departments the K-500 works wonders in opening clogged industrial or sanitary drains and supply lines. To reduce costly "down" time to a minimum, the K-500 is completely "packaged." The machine, sectional cables and assorted cutting tools are all carried on the ball-bearing wheel dolly from which the machine operates. Easily and safely handled by one man, this rugged and dependable machine drives up to 200' of sectional cable through all traps and bends. (Larger power units are available for longer runs.)
700 R.P.M. cable speed assures fast and complete cleaning. Patented, instant-acting clutch provides finger-tip starting, stopping or reversing. Electric, air or gasoline power.

Hundreds of "famous names" have proved the superiority of Kollmann machines. Ask us about those in your field.

KOLLMANN MFG. CO. • ERIE, PA.

▲ For more details circle NED-227 L5 on enclosed inquiry slip ▲

BOOST 100 PSI AIR PRESSURE TO 30,000 PSI FLUID PRESSURE

for... $289.50 (F.O.B. Gardena, Calif.)

Continuous-acting, air-driven. Various ratios give maximum fluid pressures of 100 to 50,000 psi. Size: 8¼" wide x 9⅝" deep.

Eight standard models. Special models for lower or higher pressures. Applicable wherever low-volume output at high pressures is the requirement, such as static testing, powering presses for forming, shearing, clamping, etc. Thousands in use. Complete power packages also available. Send for Bulletins.

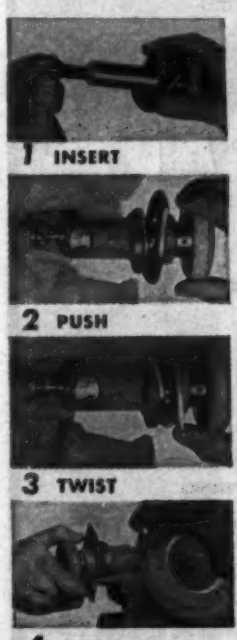
SPRAGUE *Engineering Corporation*

1144 WEST 135th STREET, GARDENA, CALIFORNIA

For more details circle NED-228 L5 on enclosed inquiry slip

Now! Anyone can GRIND DRILLS

Quickly .... Accurately .... Easily



The BLACK DIAMOND Drill Grinder restores a worn drill to like-new precision sharpness . . . in 10 seconds! Any inexperienced man (or woman!) is an expert grinder with this unit. Both lips ground at once . . . web-thinning equally simple! Pays for itself many times over!

FREE BULLETIN

Get all the facts! 4 page illustrated bulletin gives complete story. *Write Today!*

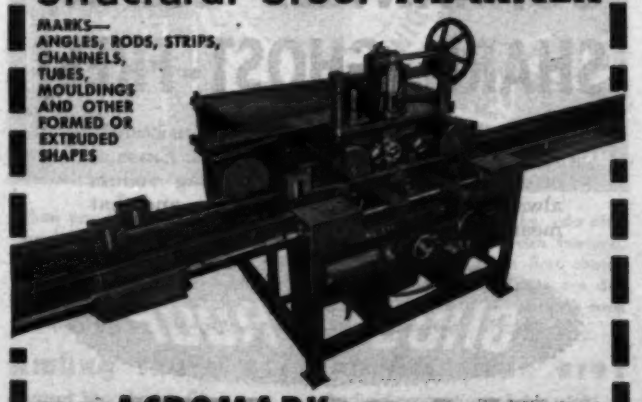
BLACK DIAMOND

SAW & MACHINE WORKS 72 NORTH AVE. NATICK, MASS.

For more details circle NED-229 L5 on enclosed inquiry slip

Structural Steel MARKER

MARKS— ANGLES, RODS, STRIPS, CHANNELS, TUBES, MOULDINGS AND OTHER FORMED OR EXTRUDED SHAPES



THE ACROMARK MODEL NO. 511 "ROLL TYPE" MARKING MACHINE

is complete with conveyor extensions to carry lengths of continuous extrusions underneath the finishing and marking roll for continuous or intermittent marking. Mechanically adjustable, motor driven, efficient—this is only one of hundreds of different types of marking machines made by "The Original Marking Specialists".

Write for catalog—NOW

ACROMARK

THE ACROMARK COMPANY 7-11 MORRELL ST. ELIZABETH NEW JERSEY

For more details circle NED-230 L5 on enclosed inquiry slip

AIR FILTERS
remove contaminants and fumes

All traces of oil and oil vapors, solid particles over 3 microns in size, odors, fumes and moisture are removed from compressed air by the Super Clean line of air filters. Series 350 units will absorb large quantities of contaminants before the filter need be changed. Contaminants are diverted by a baffle into a sump at the bottom from which they are periodically drained. Models are available for ¼, ⅜, ½, ¾ and 1-in. lines. Made by **Wilkerson Corp.**, 3435 S. Platte River Dr., Englewood, Colo.

For more details circle NED-231 L5 on enclosed inquiry slip

PIPE DIE STOCK OILER
for hand or powered threaders

Pipe theading dies can be continuously flooded with cutting oil during the threading operation by the Ridgoilr, a portable oiler. It is usable while threading with hand or power, and consists of a removable 15-in. wide chip pan in an oil reservoir with carrying bail. A screen equipped hose connects the reservoir with a hand-operated oil pump-gun. Placed under the work, device catches oil, chips and cut-offs. Most of oil is saved and reused. Made by **Ridge Tool Co.**, 125 Ridge Rd., Elyria, O.

For more details circle NED-232 L5 on enclosed inquiry slip

WEB SECTION BENDER
rod is automatically bent

Center accordion-style web section of bar joist assemblies are automatically bent by this machine in a single continuous operation. Machine handles rods up to ¾-in. by 30 ft, longer by extension. It can be adjusted for any web section from 8 x 10 in. up. Driven by a reversible geared motor with magnetic brake, bender is capable of 6000 bends per hour on ⅜-in. by 30-ft rods. Made by **Eidal Mfg. Co.**, Box 1299, Albuquerque, N. Mex.

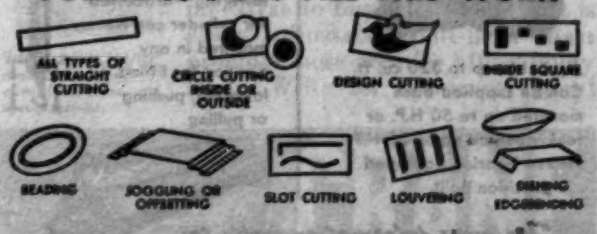
For more details circle NED-233 L5 on enclosed inquiry slip

YOU'LL BE AMAZED at what PULLMAX DOES in metalworking

1 machine can do all these jobs in your shop

Ask any Pullmax user and he'll usually say, "I don't know how we ever got along without it." 7 sizes of Pullmax cut mild steel, up to 1½". Pullmax does all the jobs shown here and generally pays for itself in three or four months by saying time, labor and material.

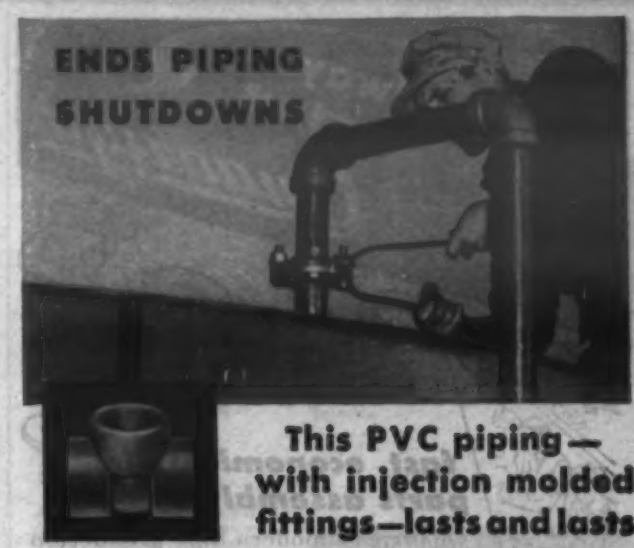
PULLMAX DOES ALL THIS WORK



COMPLETE NATIONAL SALES AND SERVICE
WRITE FOR THE PULLMAX CATALOG OF MONEY-SAVING METALWORKING IDEAS

AMERICAN PULLMAX COMPANY, INC. 2401 North Sheffield Avenue • Chicago 14, Illinois

For more details circle NED-234 L5 on enclosed inquiry slip



This PVC piping—with injection molded fittings—lasts and lasts

At this plant, unplasticized PVC piping handles sulfuric, nitric, muriatic, phosphoric, and acetic acids. Pressures range to 100 psi. This PVC piping, using Tube Turns Plastics' injection molded PVC fittings, has been in service for months, shows no signs of deterioration. Yet the metal and alloy metal piping it replaced failed at 3 to 12 months intervals from corrosive action. Cut your maintenance—eliminate shutdowns and hazards. Write for free booklet describing properties of unplasticized PVC fittings and flanges. Tube Turns Plastics, Inc., Dept. PE-11, 2929 Magazine Street, Louisville 11, Kentucky.

TUBE TURNS PLASTICS, INC. Louisville 11, Kentucky

Call your TUBE TURNS PLASTICS' *Distributor*

For more details circle NED-235 L5 on enclosed inquiry slip

Looking for industrial tires that can really take punishment?

Get Goodyears —they're job-fitted!

The truck above is a good example of how Goodyear Industrial Tires can stand up under rough wear. Operating on rough outside roads under tremendous loads, these tires take a terrific beating because they are subject to more than the normal amount of cutting and chipping.

So the Goodyear dealer recommended the highly chip-resistant RED SEAL compound for longer life. For oil or grease covered floors Goodyear has an oil- and grease-resisting YELLOW SEAL compound. And that's only one way Goodyear Industrial Tires can be job-fitted to meet a particular need.

For the right kind of cushioning, stability and traction, there are four types of treads in the solid tires alone.

Today, why not ask your Goodyear dealer to recommend the tires that are not only right for your trucks—but right for your jobs. Or write:

Goodyear, Industrial Tire Sales, Akron 16, Ohio

GROOVE TREAD SOLID— built to take heavy punishment on big trucks

SMOOTH-SOLID— for factory, warehouse and loading platform

ALL-WEATHER TREAD— for ramps, wet surfaces and other extra-traction conditions

ALL-SERVICE TREAD XTRA CUSHION— built with compact lug design for fast, easy rolling with maximum smoothness and stability

Look for this sign; there's a Goodyear dealer near you.

USE THE RIGHT TIRE FOR THE JOB—BUY AND SPECIFY

GOODYEAR INDUSTRIAL TIRES

All-Service, All-Weather, Xtra Cushion—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-236 L5 on enclosed inquiry slip

fast, economical parts assembly

Quadriga's modern high production facilities assure you precision quality, prompt delivery and lowest possible cost.

All types of washers and metal stampings...press capacity to 150 tons, depth of draw to 4 in....complete production line facilities for all types of parts assembly work.

Write for illustrated catalog...send B/P, sample or data for estimate.

THE QUADRIGA MANUFACTURING CO.

221 WEST GRAND AVE. • CHICAGO 10, ILLINOIS

▲ For more details circle NED-237 L5 on enclosed inquiry slip ▲

HYDRAULIC PUMPS
five sizes discharge 8-22 gpm

Rated for 1000 psi, line of five gear type hydraulic pumps is available with various flanges, mountings and portings. Easy mounting, continuous duty pumps have discharge capacities from 8 to 22 gpm. Applications include truck mounted machinery, road building equipment, materials handling trucks, automotive and farm machines and other mobile and stationary units. Made by **Wisconsin Hydraulics, Inc.**, 3166 N. 30th St., Milwaukee 16, Wis.

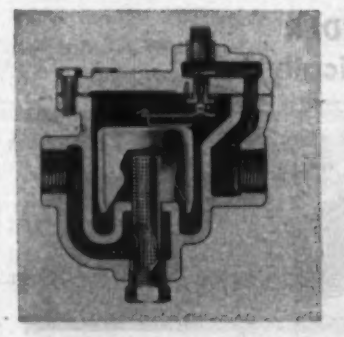
▲ For more details circle NED-239 L5 on enclosed inquiry slip ▲

TOOLING BALLS
two types made in ¼ to 1-in. sizes

Tooling balls that have shanks with and without locating shoulders are made of 440-C stainless and are hardened to 55-58 Rockwell C. Both types are carried in stock in ¼ to 1-in. sizes in increments of ⅛-in. Plain shank fixture balls for use in jigs and fixtures provide accurate positioning of work in any plane. Checking balls with a reference shoulder are used for inspection purposes. These also are extremely accurate. Made by **Industrial Tectonics, Inc.**, Dept. NED, 3684 Jackson Rd., Ann Arbor, Mich.

▲ For more details circle NED-240 L5 on enclosed inquiry slip ▲

STEAM TRAP
inverted bucket type retains prime



High discharge capacity despite small size is inherent in this type B inverted bucket steam trap. This is made possible by use of large valves operated by Camlift valve mechanism which provides the force needed to open the valves against steam pressure. Mechanism also insures quick opening to prevent partial waterlogging of unit being drained. Trap also retains its prime under such difficult operating conditions as light loads, rapid pressure drops and partial vacuum in return line caused by night shutdowns. Made by **Sarco Co.**, Dept. P, Empire State Bldg., New York 1, N. Y.

▲ For more details circle NED-241 L5 on enclosed inquiry slip ▲

specify standard

HALLOWELL SHOP DESKS

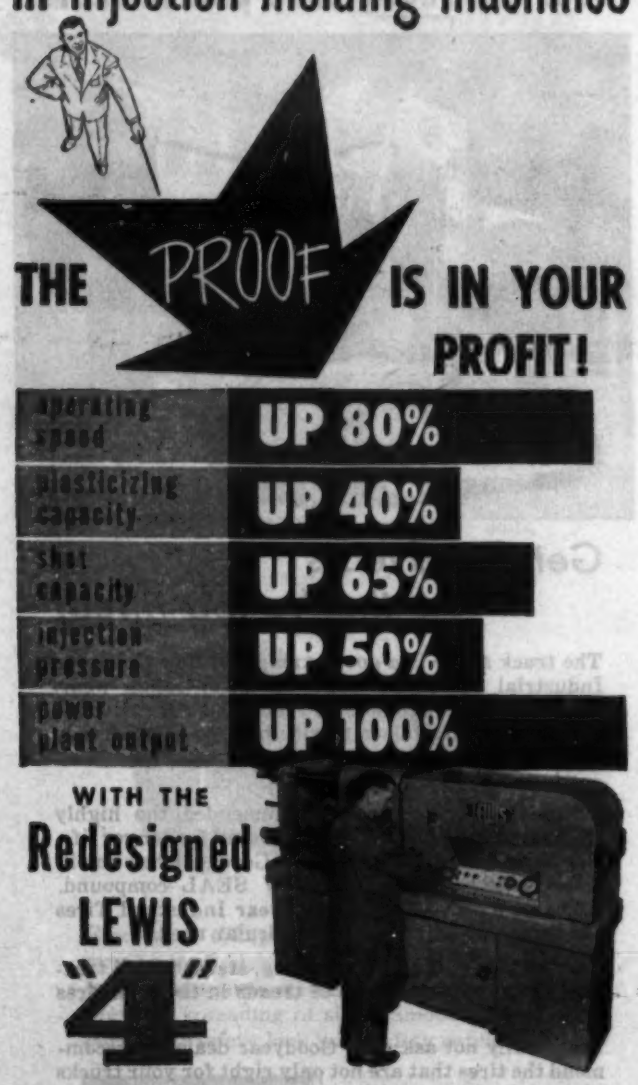
HALLOWELL FEATURES
Smooth steel writing surface
Easy gliding drawers
Recessed drawer pulls
Baked-on enamel finish
Functional design, neat appearance

Standard units with *standard* interchangeable parts permit you to *custom build* HALLOWELL Shop Desks to fit your requirements. And these desks are stocked by leading shop equipment dealers. Write for literature. STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

HALLOWELL SHOP EQUIPMENT DIVISION **SPS** JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-243 L5 on enclosed inquiry slip ▲

in injection molding machines



Here's a completely new model of a well-known "workhorse" in plastics molding. New and greater capacities put it in a class of its own . . . small machine size, price and operating costs but big machine capacity and accuracy.

These are the facts. New 6-second dry cycle. New 50-pound per hour plasticizing capacity. New 5-ounce shot capacity (polystyrene). New injection pressures (21,200 p.s.i.). New 10 h.p. motor. New 22 g.p.m. hydraulic pump. And . . . the largest platens in its class . . . 14" x 12½" between the rods. In addition, the redesigned LEWIS "4" can easily be converted to fully automatic operation for even greater production capacity.

ONLY THE LEWIS "4" GIVES YOU ALL THIS AT ONE LOW PRICE.

THE LEWIS WELDING & ENGINEERING CORP.
14 Interstate Street • Bedford, Ohio

LEWIS

WRITE TODAY FOR COMPLETE DETAILS

LEWIS WELDING & ENGRG. CORP.
14 Interstate Street
Bedford, Ohio

Please send me a copy of BULLETIN 104 describing the redesigned LEWIS "4" injection molding machine.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ ZONE ____ STATE ____

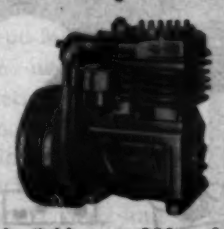
▲ For more details circle NED-238 L5 on enclosed inquiry slip ▲

GET MORE PRODUCTION PER MAN HOUR

with the Help of Dependable Efficient

Curtis

Air Compressors



Available up to 320 cu. ft. Can be supplied base mounted up to 50 H.P. or tank mounted up to 15 H.P. Timken bearing equipped . . . precision built.

Air Cylinders and Hoists

To lift, lower, push, or pull

Pendant air hoist is ideal for lifting or lowering—Bracketed Air cylinder can be mounted in any position for lifting, lowering, pushing or pulling.

For more information write to:

CURTIS PNEUMATIC MACHINERY DIVISION of Curtis Mfg. Co.
1979 Kienlen Avenue • St. Louis 20, Missouri

100 Years of Successful Manufacturing Experience

▲ For more details circle NED-242 L5 on enclosed inquiry slip ▲

For Electrical Splices

SELF-STICKING
PERMACEL® TAPES

Many jobs can be done faster, better, easier with self-sticking tape . . . write Permacel Tape Corporation, New Brunswick, N. J.

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GUARANTEED CLEAN, SHARP, GHOST-FREE!

That's the kind of prints you get consistently when you work with ELLCO-VEL. Erase as often as you wish, this 100% rag vellum always takes a crisp, clean line . . . and that means clean, readable prints.

GHOST-PROOF

ELLCO-VEL®
TRACING PAPER

Withstands creasing or crumpling . . . won't become brittle or yellow with age. Available in a choice of weights, in sheets or rolls.

MAKE YOUR OWN TEST

Send for your free sample kit of ELLCO-VEL. Compare its performance with any paper at any price!

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Dept. N-11 126 Sixth St. Pittsburgh 22, Pa.

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FREE

INFORMATIVE BULLETIN

How to set new highs in precision measurement of low temperatures

This special low-temperature Alnor Pyrometer is invaluable for balancing hot water heating systems, checking floor, wall or ceiling temperatures in panel heating systems, measuring temperature of refrigerated coils, insulation and all other low temperatures. Sturdy and completely portable, the Type 2300 can be taken anywhere—and give precise, direct readings in from 3 to 5 seconds.

Tear out this ad and attach it to your letterhead. Mail to Illinois Testing Laboratories, Inc., Room 529, 420 North La Salle Street, Chicago 10, Illinois.

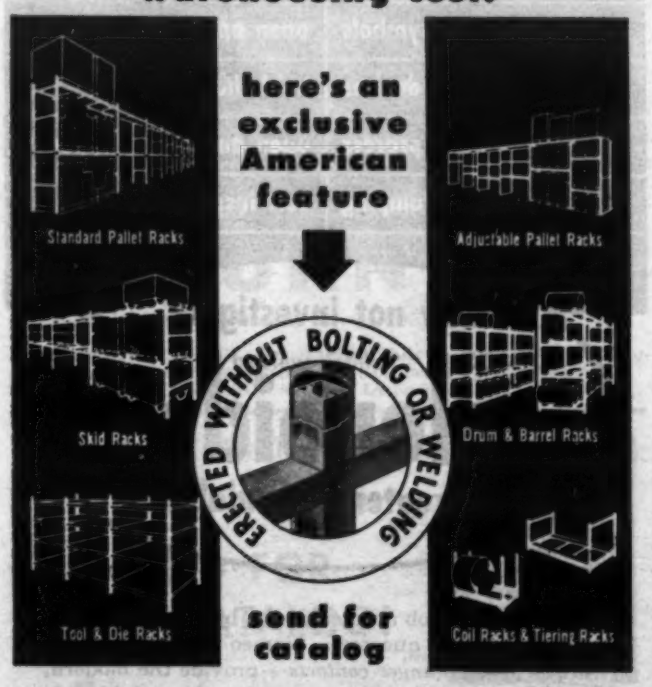
Alnor

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ For more details circle NED-246 L5 on enclosed inquiry slip ▲

"Stack up" with American STORAGE RACKS

and cut your handling and warehousing cost!



here's an exclusive American feature

send for catalog

When you "stack up" with American Tubular Storage Racks, you also "stack up" savings. The ingenious and simplified American feature, "erected without bolting or welding," has made them first choice with many businesses both large and small. American Racks are designed to meet practically every storage need. Send for catalog and get the facts on American before you buy any type of rack.

Among those sold on American are:

Central Warehouse Co.
Ford Motor Co.
Link Belt Co.
McKesson & Robbins, Inc.
Radio Corporation of America
Standard Brands, Inc.
U. S. Rubber Co.
F. W. Woolworth Co.

AMERICAN METAL PRODUCTS CO.

STORAGE RACK DIVISION
5959 Linsdale • Detroit 4, Michigan

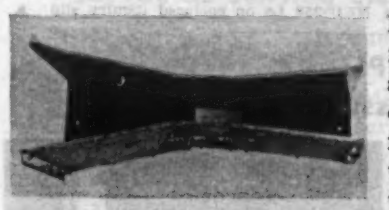
▲ For more details circle NED-247 L5 on enclosed inquiry slip ▲

LIGHT SWITCH
quiet unit has 20-amp capacity

Need for a small size switch with sufficient capacity for heavy lighting loads and electrical appliances is met by line of Quiette heavy duty 20-amp, 120-277-v interchangeable switches. They can control both incandescent and fluorescent lights and appliances through mechanical action. Alloy silver contacts and brown or ivorylite handles are features. UL-listed switches have screw terminals and are offered in single or double-pole, three or four-way types. Made by **Arrow-Hart & Hegeman Electric Co.**, 101 Hawthorn St., Hartford 6, Conn.

▲ For more details circle NED-248 L5 on enclosed inquiry slip ▲

FLUMES & FLUME LINERS
impervious to most acids, alkalines



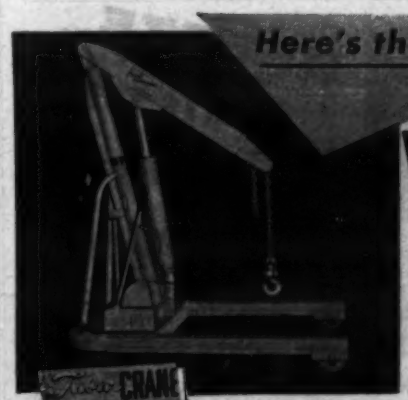
Parshall flumes and flume liners provide a permanent and accurate inside surface for channel walls at the flume section, while approach and downstream walls are formed in the usual manner. They are made of Chemstone E, basically Transite impregnated with an asphaltic compound and bonded under high pressure. Material is impervious to most acid and alkaline liquids and withstands shock, vibration and rapid temperature changes. Tolerances are held to 1/16-in., well within the accuracy limits for this type of metering. Float chambers are available. Narrowest width ranges from 3 in. to 8 ft and heights range from 2 to 3 ft. Made by **Filtration Equipment Corp.**, Dept. N, 271 Hollenbeck St., Rochester 3, N. Y.

▲ For more details circle NED-249 L5 on enclosed inquiry slip ▲

BROKEN LAMP BASE REMOVER
base unscrewed by friction grip

Safe and easy means for removing bases of broken lamps from their receptacles is provided by this lamp base remover. When inserted in the base of the broken lamp, it unscrews by friction grip. Finished wood handle has a straight end to which is secured a molded rubber fitting which engages the inside surface. No metal is used. Made by **Ericson Mfg. Co.**, 5209 Euclid Bldg., Cleveland 3, O.

▲ For more details circle NED-250 L5 on enclosed inquiry slip ▲



THIS BROCHURE describes the full line, complete with all specifications.

Here's the most VERSATILE CRANE you can buy!

Available in seven models, with capacities from one-half to three tons. Every Tubarcrane has a three-position built-in extension boom—no extras to buy! Pumping effort is easily adjustable. Tilt-back mast provides more area for lifting bulky loads. Write for literature today!

Tubar CRANE

Manufactured by UHRDEN, INC. • DENNISON, OHIO
Jobber Territories Available
Also request literature on Tubar Hand Trucks, Platform Trucks, Tubarlifts
U-255-105

▲ For more details circle NED-251 L5 on enclosed inquiry slip ▲

JEFFREY Transmission Parts for perfect performance

Jeffrey Shaft Couplings: Pin and Bolt flexible type, flanged, Oldham type.

Jeffrey Set Collars: Split or Solid Cast Iron, Solid Steel, machine faced and bored true.

Jeffrey Holdbacks: Friction type; also Differential Band Brake, Silent Ratchet Safety Lock and Solenoid.

Jeffrey Pillow Blocks: Solid or Split Journal, Hollow Dowel, Babbitted Anti-friction Roller Bearing, various flanges.

Jeffrey Takeups: Babbitted Bearing; also Ball, Roller or Bronze Bushed, self aligning, positive adjustments.

THE JEFFREY MANUFACTURING CO.
Columbus 16, Ohio

IF IT'S MINED, PROCESSED OR MOVED ...IT'S A JOB FOR JEFFREY!

sales offices and distributors in principal cities

▲ For more details circle NED-252 L5 on enclosed inquiry slip ▲

FLAMELESS BLOW TORCH

for quick heat up to 750°

Use the Mamco Flameless Blow Torch on any application requiring a concentrated hot air blast. You can soften, form, mold and patch plastics, etc. easily with safety . . . The Mamco Flameless Blow Torch gives you quick heat up to 750° *without flame.*

Powerful Mamco electric motor 110-120 Volt AC and DC. Turbo type fan provides steady, strong air blast. Eight foot heavy duty cord. Double jacketed heater housing. Adjustable air intake. Order direct.

Price $28.50

WRITE DEPT. N.

Master APPLIANCE MFG. CO. RACINE, WISCONSIN

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OPW visi-flo

One Look to Know!

OPW VISI-FLO sight glass indicators are a trustworthy visible means of alerting you as to rate of flow, viscosity, color of liquids, clarity, and purity of product.

OPW VISI-FLO protects you against line stoppage, helps maintain uniformity, a high standard of product quality and an even continuity of production.

Write Write for free Bulletin F-6 describing complete VISI-FLO line, from plain types to magnetic indicating types.

OPW CORPORATION
2729 Celeron Ave.
Cincinnati 25, Ohio

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TORIT DUST COLLECTORS

...Really draw!

A size and model to solve any dust collecting problem. Torit collectors provide complete, all-around dust control. Torit collectors are unitized for custom installation on each machine, giving power and suction only when machine is operating. Keeps plant and machines free from clogging and unsightly dust. Furthermore, cleaned and filtered air is exhausted back *into* the room maintaining heat balance. Find out now how Torit unitized dust control is engineered to your problems.

See our catalog in Sweet's Machine Tool File, or write

TORIT MANUFACTURING CO.
298 Walnut St., St. Paul 2, Minn.

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Erik A. Lindgren Presents . . .

the New Look in Shielded Enclosures

patent pending

GUARANTEED HIGHEST ATTENUATION RATINGS
146 DB - Copper 128 DB - Bronze

now pat. pend. 2-handle, completely leakproof door—roller bearing bronze hinges.

now screen sections are firmly fastened to wooden frame—then these wooded supports are bolted together at sides, inside and out, for greatest possible strength.

now extra-reinforced floor with cross beams every 12". 1" plywood flooring, covered with ⅛" vinyl tile.

now Lindgren shielded enclosures have expanded metal "kick plates" for added durability and protection. Interchangeable screen panels are held in contact with each other by continuous pressure, without soldering. Easily taken apart for storage or for changing location.

Meets U.S. Gov't. performance specifications

Illustrated Book—Contains Specifications and Performance Charts.

WRITE TODAY!

ERIK A. Lindgren & ASSOCIATES
Established 1939
4315-17 N. Ravenswood Ave., Dept N11 Chicago 40, Ill. SUnnyside 4-6710

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Spaulding FIBRE RECEPTACLES

LOOK AT THESE IMPORTANT FEATURES

TOUGH – to resist impact and abrasion
LIGHT – easy to move about
SMOOTH – won't splinter
MOISTURE RESISTANT – won't rust or corrode
LONG LASTING – for greater economy

SEND FOR FREE CATALOG

Spaulding Fibre Company, Inc.
Dover, N. H.
Please send free catalog on the complete line of Spaulding Fibre Receptacles for materials handling and storage.

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

▲ For more details circle NED-257 L5 on enclosed inquiry slip ▲

VARIABLE FREQUENCY FILTER for vibration wave analysis

Simplified and accurate vibration wave analysis is possible with the model 1064 continuously variable filter for use with vibration analyzers. Combined

use of filter (left) and analyzer (right) permits observation or recording of actual displacement caused by mechanisms rotating at the same frequency to which the filter is tuned. Filter has a tuning range from 500 to 50,000 cpm and companion model 1065 extends top range to 500,000 cpm. Made by **International Research & Development Corp.**, Dept. A, Box 1707, Columbus 16, O.

▲ For more details circle NED-258 L5 on enclosed inquiry slip ▲

TOGGLE CLAMPS holding pressures up to 4000 lb

Replaceable parts, forged alloy-steel components, and holding pressures up to 4000 lb are features of 557 and 558 De-Sta-Co Titan toggle clamps. Hardened threaded pivot rods and serrated bushings throughout allow parts to be replaced by use of a screwdriver only. Model 557 features a low silhouette or fixture-hugging quality both in open and closed position and is recommended when overhead clearance is limited. Illustrated model 588 is used for production jobs where clearance allows use of an upright handle. Made by **Detroit Stamping Co.**, 360 Midland Ave., Detroit 3, Mich.

▲ For more details circle NED-259 L5 on enclosed inquiry slip ▲

Laboratory Facilities

Inland Testing Laboratories—40-page brochure entitled "Inland Testing Laboratories" describes in detail the qualifications, personnel, equipment and facilities available at Inland for wide range of products and systems testing and evaluation. Special facilities, such as the explosionproof and explosion testing laboratories, and the blast-cooling chamber are of special interest.

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BREEZE BUILDS BETTER BELLOWS

Breeze bellows are job-engineered for tough applications where ordinary formed bellows cannot meet the requirements. Custom-building permits more convolutions per inch for controlled flexibility; extra strength is *precision-welded* into each diaphragm. Spring rate is exact.

Where necessary, Breeze can solve difficult vibration problems through special design, using plate-to-plate construction of proper metal and varying thickness.

Breeze *valve-sealing bellows* provide a tight packless seal with required flexibility. Breeze *instrument bellows* meet pressure sensing needs from vacuum to 2000 psi. As *expansion joints* and *flexible connectors* they can withstand temperatures to 1400° F. All are job-engineered.

We can also provide stainless steel *formed* bellows for operations where custom-welded bellows are not required. Our engineers invite your inquiries.

BREEZE CORPORATIONS, INC.
700 Liberty Avenue, Union, New Jersey

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YOUR BEST MOVE IS TO MOVE WITH MERRILL MATERIAL HANDLING DEVICES

For Interesting Information write

MERRILL BROTHERS
56-13 Arnold Ave., Maspeth, N. Y.

▲ For more details circle NED-262 L5 on enclosed inquiry slip ▲

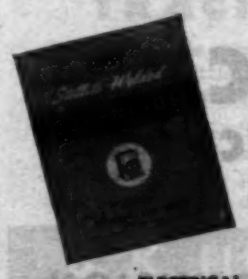
how do you do jobs like these?

actuate clutches	move levers
operate switches	operate valves
control machines	vibrate cutting knives
print identifying symbols	open and close doors
operate safety devices	hold chucks
eject work in process	open and close hoppers
actuate clamping	sort inspected parts

why not investigate NAMCO "Stellite"-welded solenoids? for greater dependability

When doing the job automatically, by remote control, or in cramped quarters, Namco Solenoids—*with "Stellite"-weld plunger contacts*—provide the modern, up-to-date way of assuring positive, dependable action, with simplified product design, manufacture and maintenance.

They are built in a wide range of standard sizes (2½ to 21 lbs. at ½" stroke and 4 to 25 lbs. at 1" stroke); in push type, pull type, or combination push-pull type. They are available for either AC or DC service, and with standard or special terminal blocks and mountings. Other types for special application are also available.



Experienced engineering assistance, to assure the most satisfactory application of Namco solenoids, is yours for the asking.

★ WRITE FOR BULLETIN EM-52. It gives complete engineering data, as well as suggestions for selection of the proper types. Also shows construction and design features and typical applications.

ELECTRICAL MANUFACTURING DIVISION
THE NATIONAL ACME COMPANY
182 East 131st Street, Cleveland 8, Ohio

▲ For more details circle NED-263 L5 on enclosed inquiry slip ▲

EISLER
FOR 35 YEARS

INDEXING TURNTABLES
MORE THAN 100 DIFFERENT TYPES

- FOR WELDING • BRAZING • SOLDERING • SPRAYING
- GLASS INSULATOR MELTING AND GLASS GLAZING with rotating stations and indexing with barrel cam or Geneva gear action.
- For work transferring, tilting positions. . . Motorized or hand operated.

We supply any part or complete equipment . . . Special turntables made to order

Eisler Indexing Turntables are completely electrically controlled

AND CAMS MADE TO YOUR SPECS!

Write for catalog and full details now!

EISLER ENGINEERING CO., INC.
740 SO. 13th ST., NEWARK 3, N. J.
Charles Eisler, Jr., President

▲ For more details circle NED-264 L5 on enclosed inquiry slip ▲

STEEL CARD FILES
lock together to form cases

Improvements incorporated in line of steel tab card files include positive compressors to hold cards flat and in shape for use in sorting machines. Nylon bearings give smooth drawer operation. Easy-grip carry-bar at rear permits carrying loaded drawers without spilling cards. Rigid batteries of these two-drawer files are formed by locking cases together, vertically, side-to-side and back-to-back. Loaded files can be stacked ceiling high without causing drawer-bind. Made by **Diebold, Inc.,** Systems Div., 818 Mulberry Rd., S.E., Canton 2, O.

▲ For more details circle NED-267 L5 on enclosed inquiry slip ▲

PRESSURE CONTROLLER
serves as sensing element as well

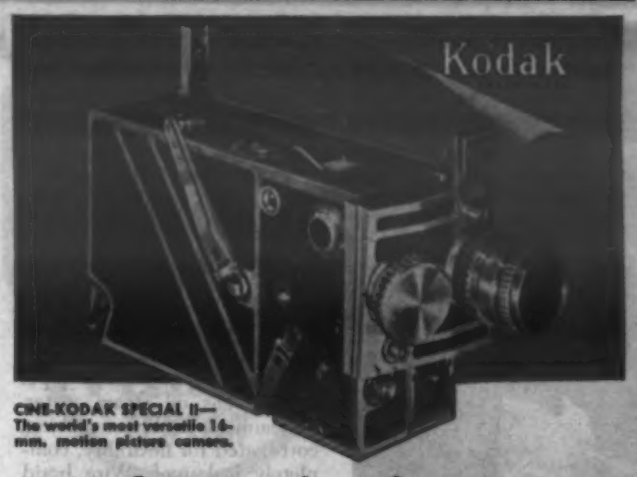
A back pressure control system complete in one unit, this Micro Delta P controller serves as the pressure sensing element, control pilot and control valve. It provides square-wave pressure response, micro-second control without hunting and constant pressure throughout full flow range. Made by **Industrial Engineering Corp.,** 525 E. Woodbine, Louisville 8, Ky.

▲ For more details circle NED-268 L5 on enclosed inquiry slip ▲

FLOOR MARKER
has interchangeable brush assembly

This Mark-Rite gravity-feed type line marker 1001 can be fitted with 2, 3 or 4-in. wide brushes as needed. Unit has paint capacity of 1½ gallons and is practical for striping loading zones, danger spots and other plant areas where working space makes floor marking a problem. It rides on 6-in. wheels and has a 2-in. guide wheel to assure straight lines. Head, nose and steel nozzle can be removed for cleaning. An automatic air intake control is attached to the fluid control rod. Marker weighs 22 lb. Made by **Unimasco,** 424 W. Redondo Beach Blvd., Gardena 2, Calif.

▲ For more details circle NED-269 L5 on enclosed inquiry slip ▲



CINE-KODAK SPECIAL II—The world's most versatile 16-mm. motion picture camera.

Make movies that work for you!

In almost every industrial activity—engineering, manufacturing, employee training, research, safety and methods evaluation—in-plant movies are the fastest, easiest, and most effective method for putting across your story.

And for on-the-job movie making, many leading industrial companies have chosen the Cine-Kodak Special II Camera. It has the versatility to handle almost any type of job. Yet its simplicity of operation enables you to get high-caliber results almost as easily as taking home movies.

WRITE FOR FREE BOOKLET, V1-3,
describing the Cine-Kodak Special II.

EASTMAN KODAK COMPANY, Rochester 4, N. Y.

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Got a production or design problem?

• GASKETS • PACKINGS • WASHERS
• SEALS • SHIMS • BUSHINGS • "O" RINGS

85 YEARS OF AUBURN "KNOW HOW" HAS THE ANSWERS!

Yes . . . over 85 years experience in engineering, designing, fabricating and production qualifies Auburn to help you find the ideal answer to your problem. Where gaskets, washers, and other sealing devices are concerned, Auburn engineers are tops in the field. Their know-how is yours—for the asking. We are tooled to fabricate in virtually any material:

Leather, Asbestos, Teflon, Silicone Rubber, Neoprene, Rubber, Cork, Fibre Compositions, Phenolics, Felt, Cloth, Paper, Cardboard, Plastics, Brass, Steel, Copper, Aluminum, Kel-F, Other Special Materials.

Send us your specifications or blueprints. You'll receive quotations, recommendations without obligation.

AUBURN MANUFACTURING COMPANY
306 Stack St., Middletown, Conn.

Representatives: Atlanta, Ga.; Detroit, Mich.; St. Louis, Mo.; Los Angeles, Cal.; Minneapolis, Minn.; Washington, D. C.; Cincinnati, O.; Rochester, N. Y.

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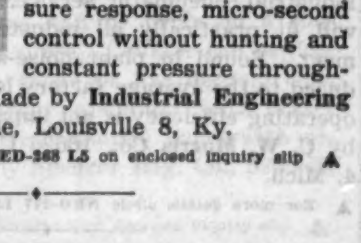
GUARANTEED—REDUCED PRESS DOWN-TIME with TOOLSET

. . . . . Your opportunity for BIGGER PROFITS



Do as Morrison Railway Supply Corp. of Buffalo, N. Y. did. . . .they reduced press down-time on this forty punch job to 45 minutes, a savings of more than 90% by using TOOLSET self-contained units in place of fixed dies. The TOOLSET punches required only 2 hrs. set-up time outside the press.

This is only one profit building feature that you get with TOOLSET units, here are more:

- LOW INITIAL COST
- FAST SET UP BY UNSKILLED LABOR
- ELIMINATE COSTLY FIXED DIE SETS
- TOOLING REUSABLE, SET-UP AFTER SET-UP

. . . . .These cumulative savings result in a substantial lowering of per piece part cost. And, in most cases, Toolset Units permit you to render faster service. . .a bonus feature in better customer relations.

Toolset Hole Punching and Notching Units are available in seven widths from ¾" to 3½"; throat depths from 4" to 16". Punches available in round, square, rectangular, obround or special shapes as required.

Start cutting costs NOW—Send coupon for Catalog of complete Toolset Line

TOOLSET Inc.

Toolset, Inc.
2181 Elmwood Ave., Buffalo 7, N. Y.
Gentlemen:
Please furnish a copy of your Catalog on Hole Punching and Notching Units.
Name .....
Title .....
Firm .....
Address .....
City ..... Zone ..... State .....

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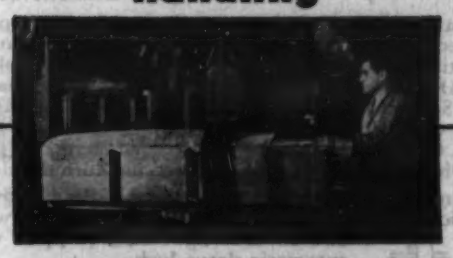
GRIPPER
WOVEN WIRE
SLINGS
FOR EASIER AND SAFER

handling



or processing

EXTRA BROAD bearing surface gives greater strength, stability and maneuverability . . . even while moving heavy, bulky loads from point to point or through processing operations. Use either BASKET or CHOKE HITCH.

ONE MAN can fasten the load and operate the hoist. No fighting with kinks or tangles. No dangerous whipping or snarling of loose ends. Smooth woven wire construction eliminates sharp loose strands.

COMPLETE FLEXIBILITY gives greater gripping power around even the smallest loads . . . lets you store Gripper Slings in compact coils or hang them perfectly flat on the wall. All-metal construction means long life, freedom from damage even by sharp edged loads.

AVAILABLE in standard lengths and widths, capacities up to 100,000 lbs. Special sizes on request. Every sling PRETESTED to meet loading specifications.

See your materials handling, mill supply or safety equipment distributor. Or, write direct for FREE catalog and name of nearest distributor.

The Cambridge Wire Cloth Co.
Dept. R • Cambridge 11, Md.

WIRE CLOTH · METAL CONVEYOR BELTS · SPECIAL METAL FABRICATIONS

OFFICES IN PRINCIPAL INDUSTRIAL AREAS

DISTRIBUTORS—write for open territory data!

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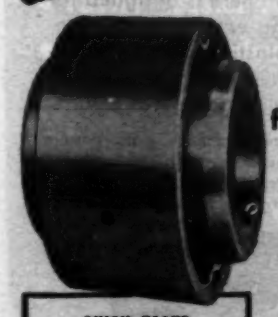
If your machines have Direct Drives—

SEND FOR THIS CATALOG!

Compare SIER-BATH
Flexible
GEAR COUPLINGS



with any other couplings for size—weight—capacity—assembly savings—and operating advantages

Whether you design, assemble or service direct-connected machines, it will pay you to learn how Sier-Bath Flexible Gear Couplings can save you space, weight, time and money, while improving machine performance. Send today for 16-page Catalog C-4—or look in "Yellow Pages" for distributor.

QUICK FACTS

- 3/5 usual size 1/2 usual weight
- Only 7 parts—no flanges, nuts, bolts
- Assembled, uncoupled in seconds
- Slash assembly costs, down time.

Sier-Bath GEAR & PUMP CO., INC.
9240 Hudson Boulevard, North Bergen, N. J.
50th Anniversary Member A.G.M.A.
Also Mfrs. of Precision Gears, Rotary Pumps

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FLEXPIPE CONNECTORS

CAN SAVE YOU TIME, MATERIALS

Easy To Install . . . Standard male pipe fittings at each end thread quickly to companion fittings. Saves time and materials — Flexpipe* takes the place of rigid connections made up with elbows, couplings, and short runs of pipe. For air, gas, oil, steam, water.

Seamless, tin-bronze tubing, corrugated for flexibility, completely leakproof. Wire braid covering for extra strength. Low cost. Available in diameter sizes ¼" through 2", in over-all lengths 8" through 28". **Sold By** leading plumbing supply houses. For literature on standard sizes and lengths, write to The American Brass Company, American Metal Hose Division, Waterbury 20, Conn. In Canada: The Canadian Fairbanks-Morse Co., Ltd.

*Trade Mark

- Permit travel
- Absorb vibration
- Connect misaligned parts

Cutaway section of Flexpipe connector shows how core of seamless, tin-bronze tubing is corrugated for flexibility. Tin-bronze wire braid covering gives extra strength.

Flexpipe

AN ANACONDA® PRODUCT

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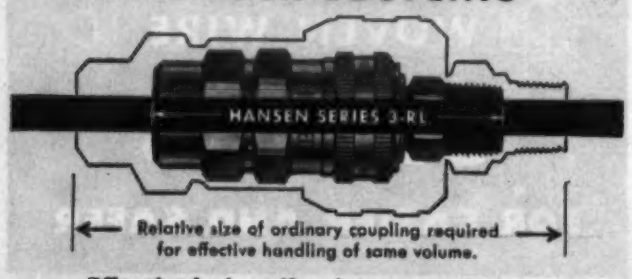
THE NEW **HANSEN** SERIES 3-RL

QUICK-CONNECTIVE

RING-LOCK COUPLING



Effectively handles far more volume than any coupling of equal dimensions

- Handles any job in your shop using ¾" to ⅛" connections—from the air line to the air tool. No longer essential to have various size couplings in your hook-up. The Hansen Series 3-RL, with completely interchangeable Sockets and Plugs does it all—simplifies keeping stock of parts in balance—holds inventories to a minimum. Quickly and positively connected merely by pushing Plug into Socket. To disconnect, just turn the sleeve. Locking ring in Socket enters groove in Plug, provides practically 360° metal to metal contact, reduces wear, and insures tight fit. Equipped with automatic sleeve lock.

Write for Descriptive Literature

THE HANSEN MANUFACTURING COMPANY

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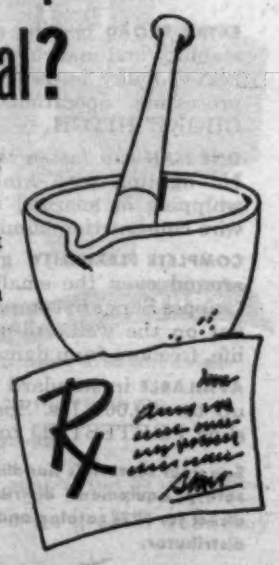
need many properties in one material?



When you need parts which must have many properties in combination, try *Synthane* laminated plastics. Many different grades of *Synthane* sheets, rods, tubes, and molded parts offer you light weight, dielectric strength, hardness, heat resistance, dimensional stability, chemical resistance, machinability, and many other needed properties, all in combination. Complete fabrication service too. Send coupon for catalog and get the full story.

SYNTHANE

SYNTHANE CORPORATION

N.E. River Road, Oaks, Pennsylvania

Please send me a copy of the *Synthane* catalog.

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

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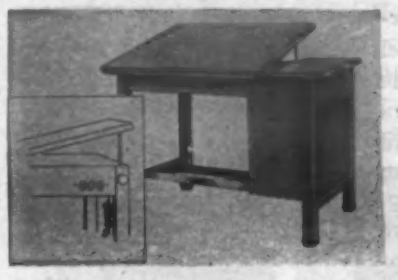
DRAFTING TABLES feature electrical outlets



Lamp, eraser and pencil sharpener can be plugged into the three-receptacle electric outlet incorporated in Draftmaster drafting tables. Outlet is located within easy reach of user. Tables also have steel adjusting devices, interlocking steel hinges which allow easy removal of table tops and drawers operating on ball bearing rollers. Made by **Stacor Equipment Co.**, 786 E. New York Ave., Brooklyn 3, N. Y.

▲ For more details circle NED-276 L5 on enclosed inquiry slip ▲

PNEUMATIC SILENCERS quiet air-operated equipment

The noise-shock from air-operated equipment can be eliminated with use of Quietaire pneumatic silencers. Made entirely of metal, silencers are corrosion-resistant and are safe for any pressure normally encountered in industrial pneumatic service. Four models offered will fit practically all industrial air-operated equipment. Sound in plant noise-shock areas can be reduced to the average factory level of 75 decibels. Tool operating efficiency is not impaired by silencers. Made by **C. W. Morris Co.**, 10626 Cloverdale Ave., Detroit 4, Mich.

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TAPERED GAGES measure straight through holes

Each tapered gage in set of 86 is made of hardened high speed steel with taper of 0.0001-in. in each 0.100-in. of length. Included are twenty 2-in. long gages with diameters from 0.014 to 0.054-in. and sixty-six 3-in. gages from 0.054 to 0.252-in. Gages are used to measure actual hole size within above range; concentricity between hole and outside diameter when used as an arbor supported between two V-blocks; width of keyways; and location of holes in die, jigs and production parts. Made by **Heil Gage Co.**, 445 Adirondack St., Rochester 6, N. Y.

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helps prevent colds

Production line and office workers can now work in absolute comfort

The new low priced ELECTRO MAT throws off a gentle warmth that keeps workers healthy, happy and comfortable. 14" x 21" portable foot warmer is safe and economical . . . consuming less power than a 75 Watt light bulb. It is made of high quality neoprene rubber.

Attention Employers

Increase the efficiency of your employees and help prevent colds which cause absenteeism by equipping each employee with an Electro Mat.

Mail check or money order today Only $7.95 Delivered

IMPORTANT SAVING: If 6 or more Electro Mats ordered price is only $6.95

Please send me: ☐ Electro Mat at $7.95 each. Enclosed is my check ☐ money order ☐ ☐ C.O.D. I am enclosing $1.00. Will pay postman balance of $6.95 plus C.O.D. fee

Name _____

Street _____ Zone _____

City _____ State _____

10 Day Money Back Guarantee

INTERSTATE RUBBER PRODUCTS CORP., Dept. 114 908 Avila St., Los Angeles 12, California

Dealer Inquiries Invited.

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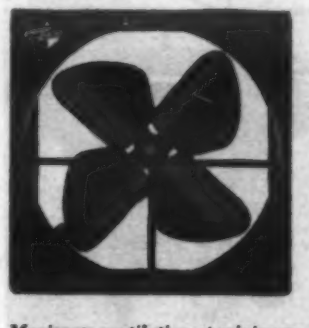
EMERSON-ELECTRIC

The fans with the Lifetime Motors



Maximum ventilation at minimum cost has brought wide use of EMERSON-ELECTRIC Belt-Drive Exhaust Fans for all kinds of air-moving jobs in all types of industry. Five sizes, 24 to 48".

Years of continuous cooling before re-lubrication*—just one of the ways 24" and 30" Air Circulators demonstrate the outstanding endurance of EMERSON-ELECTRIC Lifetime Motors. *6000 hours

Write for free catalog No. 2035. THE EMERSON ELECTRIC MFG. CO., ST. LOUIS 21, MISSOURI.

LOOK AT THE RECORD AND YOU'LL SPECIFY EMERSON-ELECTRIC

Emerson Electric

OF ST. LOUIS SINCE 1890

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HOBBS ALQUIST

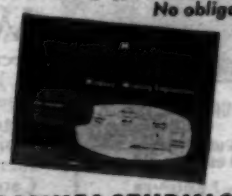
Web Winders Winding Engineering

An Engineering Plan For Whatever You Wind or Unwind

Hobbs-Alquist Winding Engineering solves every winding or unwinding problem throughout your plant — in terms of the exact demands of each individual process whether it involves constant tension, variable tension or any combination of tensions.

Our regular Hobbs-Alquist shown here is designed for rewinding applications—including extruding, coating, sensitive plastic printing operations. Also especially adaptable in textile finishing operations.

Send for special brochure giving details of Hobbs-Alquist Winding Engineering, showing versatility of Hobbs-Alquist Winders, illustrating typical applications. No obligation.



EST. 1882 **HOBBS MANUFACTURING CO.**

41 Salisbury St., Worcester 5, Mass.

N. Y. Area Office—P. O. Box 136, Cranford, N. J. • Chicago Office at 549 W. Washington Blvd.

CANADIAN REPRESENTATIVE—THE E. V. LARSON COMPANY, 572 QUEEN ST. EAST, TORONTO 2, ONTARIO

Hand & Power Shears • Die Presses • Slitters & Re-Winders • Corner Cutters

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CHANGE FROM CORD TO

Cordomatic "600"

COMBINATION WALL AND CEILING MOUNTING

DROP LIGHT REEL

Light When You Want It . . . Where You Want It

★ A rugged and dependable piece of equipment—gives you light where you want it . . . when you want it.

★ Unconditionally guaranteed for one year!

★ No installation costs. Just hang up, plug in!

★ Foolproof Recoil mechanism . . . locks at any desired length!

★ U/L Approved #18-2 Neoprene, Kink-proof cord! Oil resistant.

★ New "Stubby" Handle! 100% Neoprene!

★ New type "swing open" guard.

AVAILABLE THROUGH YOUR LOCAL JOBBER.

Cordomatic* DIVISION OF THE VACUUM CLEANER CORP. OF AMERICA

1724 INDIANA AVE., PHILA. 32, PENNA.

▲ For more details circle NED-282 L5 on enclosed inquiry slip ▲

STRAIN RELIEF!

New Industrial Pressure Switch Absorbs Pressure Surges On Hydraulic Systems

Quad Ring Seal (optional) Eliminates Oil Return Line

• Oil-tight enclosure. Explosion-resisting types also available.

• Long-life snap switch mechanism in non-carbon tracking melamine case. 1 N.O. and 1 N.C. contact.

• Range locking nut • Easily adjustable • Dry seal pipe threads.

Write for Bulletin 9012 ADW. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wisconsin

SQUARE D COMPANY

▲ For more details circle NED-283 L5 on enclosed inquiry slip ▲

Over 85% of the torque wrenches used in industry are

Sturtevant TORQUE WRENCHES

Read by Sight, Sound or Feel

• Permanently Accurate
• Practically Indestructible
• Faster—Easier to use
• Automatic Release
• All Capacities

in inch grams ...inch ounces ...inch pounds ...foot pounds

Every manufacturer, design and production man should have this valuable data. Sent upon request.

P.A. Sturtevant Co. ADDISON QUALITY ILLINOIS

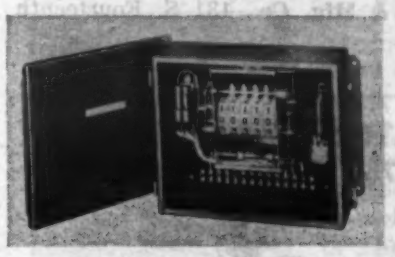
▲ For more details circle NED-284 L5 on enclosed inquiry slip ▲

SMALL PARTS CHEST
12 and 24 transparent drawer sizes

Designed for storage of small parts, this Stackmaster cabinet is available in 12 and 24 drawer sizes. Cabinet is welded steel, with a durable baked Silver Dentone finish. Transparent drawers with removable dividers afford visibility to contents. Label holder is also standard. Die-cut Lok-Tabs are provided to stack the equal-width cabinets in space-saving multiples. Made by **Union Steel Chest Corp.**, Dept. NED, LeRoy, N. Y.

▲ For more details circle NED-285 L5 on enclosed inquiry slip ▲

BATCH COUNTER
controls operation of machines



This batch counter is designed to control the number of items in a batch to be counted or measured, with control of quantity before or after an operation, as desired. Control function—ringing of bell or stopping of a machine—can be made on a conveyor, or at a machine or press. Counter can be preset at any figure within range of five digits. Unit will repeat the control cycle indefinitely until preset figure is changed. Electrical control panel with release is built in. Made by **Spencer Mfg. Co.**, 3255 N. Cicero Ave., Chicago 41, Ill.

▲ For more details circle NED-286 L5 on enclosed inquiry slip ▲

POWDER-ACTUATED TOOL
drives 3/8 or 1/4-in. studs

Latest of Ramset powder-actuated tools, this Duo-Jobmaster model is capable of doing 90 per cent of the usual fastening jobs in construction work. Tool can be used to drive either a 3/8 or 1/4-in. stud with only a simple change of the barrel. Workman can make conversion right on the job. Tool also has low recoil, and angle fire control prevents firing unless base plate is flush with surface. Base, handle and shield are chrome-plated. Made by **Olin Mathieson Chemical Corp.**, Winchester-Western Div., Ramset Fastening System, 12119 Berea Rd., Cleveland 11, O.

▲ For more details circle NED-287 L5 on enclosed inquiry slip ▲

NEW ELECTRIC VIBRATOR

BIN TYPE

Quiet!

A compact, powerful unit designed to speed the flow of stubborn materials through all types of bins, hoppers and chutes.

Obtainable in all voltage, phase and cycle requirements.

Write today for complete literature.

Bin Stuck Lately?

THE CLEVELAND VIBRATOR CO.

2744 Clinton Avenue • Cleveland 13, Ohio

▲ For more details circle NED-288 L5 on enclosed inquiry slip ▲

CONTROLS LEVEL ELECTRONICALLY

Fielden Fielden TEKTOR

NO FLOATS, DIAPHRAGMS OR PADDLES

LIQUIDS SOLIDS INTERFACE

LEVEL CONTROLLER

Fail-Safe and unusually versatile—TEKTOR controls level at a high or low limit (or both) without the bother of complex mechanical devices.

• Can be used for liquids, powders, interface (whether conducting or non-conducting).

• Controls level as close as 1/8".

• Probe need not touch the controlled material in many level applications.

• No moving parts . . . only one radio tube.

• Equipped with switch for external alarm or control.

Robertshaw-Fulton CONTROLS COMPANY

Send for technical bulletin

FIELDEN INSTRUMENT DIVISION, Dept. F, 2920 N. 4th St., Phila. 33, Pa.

▲ For more details circle NED-289 L5 on enclosed inquiry slip ▲

Every RIDGID Pipe Tool TESTED individually before shipment

Extra Fast...

...easy...pipe reaming with this self-feeding RIDGID

Spiral . . . turns into the work smoothly, no chatter. Famous RIDGID heat-treated cutting edges mean clean reaming, extra long service. Quick enlarging of conduit box outlets—and holes in sheet metal.

More for your money—buy the 2-S at your Supply House.

for power and hand reaming...

RIDGID LonGrip

5 long straight flutes ream clean, easy to control.

RIDGID Work-Saver Pipe Tools

The Ridge Tool Company • Elyria, Ohio • U.S.A.

▲ For more details circle NED-290 L5 on enclosed inquiry slip ▲

NOW... one FOAM

extinguishes both petroleum and alcohol fires

New Rockwood All-Purpose FOAM does the work of two products. Simplifies training of fire fighting personnel and cuts down fire protection inventory. Rockwood All-Purpose FOAM quickly puts out fires in alcohols, ketones, ethers and similar water soluble materials as well as petroleum derivatives.

New Rockwood All-Purpose FOAM reduces fire protection equipment for fire departments and plants which must deal with more than one type of fire hazard, and is ideally suited for Rockwood's SpotPROTECTION or fixed piping systems.

Rockwood All-Purpose FOAM liquid with the standard Rockwood FOAM nozzle provides the simplest and fastest means for extinguishing alcohol and solvent fires. The FOAM nozzle can be attached to a hose connected to the discharge gate of a fire truck, hydrant or interior hose station.

Specify new Rockwood All-Purpose FOAM, put this versatile fire fighter to work for you.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

2026 HARLOW STREET, WORCESTER 5, MASSACHUSETTS

▲ For more details circle NED-291 L5 on enclosed inquiry slip ▲

We'll Send You This Wholesale Catalog FREE!

Harry Alter's DEPENDABOOK *No. 163*

REFRIGERATION PARTS AND SUPPLIES

plus Electric-Motors and Parts, Air Conditioning

There are over 10,000 items illustrated, described and rock-bottom priced in our newest DEPENDABOOK. So—get and use this money-saver. Write for your copy to

The HARRY ALTER CO., Inc.
1728 S. Michigan Ave., Chicago 16, Ill.
134 Lafayette St., New York 13, N. Y.
1122 Parkhouse Street, Dallas 7, Texas

Wholesale Only — "Harry Alter gives you snappy service"

▲ For more details circle NED-292 L5 on enclosed inquiry slip ▲

New, Larger and More Versatile

JEFFERSON 601 Power Hack Saw

54.00 Less Motor

More Capacity... plus many new features make this amazing little saw a TOP BUY in its class

Check these "Big-Saw" Features: Adjustable bronze saw gibs in saw frame for more accurate, precise cutting and longer life . . . Automatic Electric Stop Switch shuts off saw at end of cut . . . Latest, Quick-Acting Swivel Vise . . . Gauge Bar for uniform "production line" cutting . . . and Full 4" x 4" capacity. Yes, add up the features, and you'll agree Jefferson 601 is the best saw buy in its class. See your distributor or write for details.

10 MODELS
4"x4", 5"x5"
6¾"x6¾"
8½"x8½", 10½"x9"
Wet or Dry Cut

Please send me details on the complete Keller Line

SALES SERVICE MACHINE TOOL CO.
2265 University Ave.
St. Paul 14, Minn.

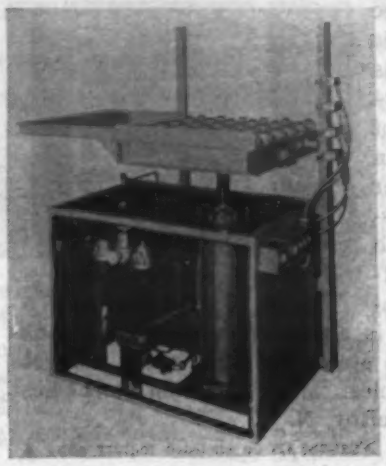
Name
Address
City

KELLER Power HACK SAWS

BUILDERS OF POWER HACK SAWS SINCE 1931

▲ For more details circle NED-293 L5 on enclosed inquiry slip ▲

ELEVATING TABLE loads and unloads presses



Rapid, accurate loading and unloading of heavy work and molds from multiple opening presses can be facilitated by the model 130 elevating table. Pushbutton operated, it raises or lowers to any one of two or more preselected press opening levels. Table is air powered and its operating levels are easily adjusted. Size and load capacities can be provided to suit requirements. Top can be either plain or ball transfer type. Made by **Loomis Engineering & Mfg. Co.,** 131 S. Fourteenth St., Newark 7, N. J.

▲ For more details circle NED-294 L5 on enclosed inquiry slip ▲

HIGH TEMPERATURE VAPORIZER attains 500-750° F for process use

Accurately controlled temperatures in the range of 500 to 750° F are provided by this International-LaMont Dowtherm vaporizer for industrial processes using high temperature fluid systems. Forced recirculation gives the liquid Dowtherm positive protection from overheating. This prevents fluid decomposition which can cause severe damage to the vaporizer by creating sluggish circulation. Made by **International Boiler Works Co.,** 446 Beach St., East Stroudsburg, Pa.

▲ For more details circle NED-295 L5 on enclosed inquiry slip ▲

Radio-Electronic Buying Guide

"The Radio-Electronic MASTER" is new title of the annual buying guide and reference volume formerly known as "Radio's MASTER." This 1956 (20th) edition is compiled for those who buy, sell, specify, manufacture and service electronic parts and equipment. More than 100,000 items are listed in its 1456 pages. Complete descriptions and specifications are included with prices, as well as more than 11,000 illustrations. Published by United Catalog Publishers, Inc., 108 Lafayette St., New York 13, N. Y.

▲ For more details circle NED-296 L5 on enclosed inquiry slip ▲

New T&B PT66-M Sta-Kon® wire joints

Pat. Pending

with *"See Through"* insulating caps— the fastest, neatest, most permanent way to do the job!

Easy as 1-2-3

1. Twist wires and insert into heavy-gauge bronze body
2. Apply staking pressure, then trim off excess wire.
3. Screw on transparent plastic insulating cap — the job is done . . . and you can SEE how you've done it

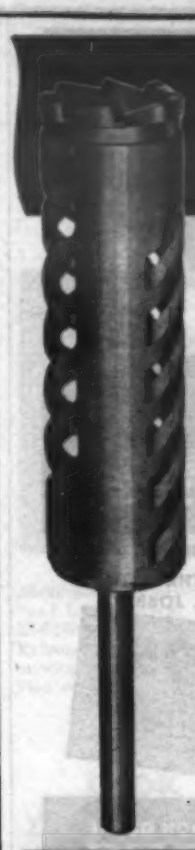
- small compact size
- brightly colored transparent cap can't vibrate loose . . . permits visual inspection of joint
- wide range — solid or stranded combinations up to 3-#12 AWG Max.

See introductory kit at your distributors . . . $6.90

Here's the tool to use . . . T&B's new Sta-Kon *plus* Pliers . . . combines standard electrician's "side cutters" with a new design, wide-range installing die in handle for PT66-M and other A, B, and C series Sta-Kon connectors.

THE THOMAS & BETTS CO. T 53
INCORPORATED
24 Butler Street • Elizabeth 1, New Jersey
Thomas & Betts Ltd., Montreal, P. Q., Canada

▲ For more details circle NED-297 L5 on enclosed inquiry slip ▲



NEW, FASTER-CUTTING *CARBIDE* MASONRY DRILL

Super Tool's New CORE-VENT Masonry Drill Easily Penetrates 4" Concrete and Stone in 50 Seconds

Another Super Tool first in masonry cutting tool design is this new, fast-cutting carbide drill. The improved CORE-VENT drill incorporates milled slots, rather than the conventional spiral flutes, to provide a truer, cleaner hole, with less pulverizing, made possible by a removable core. With CORE-VENT, there is less binding in the flutes, less packing. CORE-VENT leaves a hole accurately-sized for rapid installation of anchors, expansion shields, etc.

CORE-VENT is now available at Super Tool warehouses and leading hardware and builders' supply houses across the country—furnished in sizes from ¼" to 6". *Write now for our free illustrated bulletin.*

Super Tool also makes a complete line of full-spiral fluted masonry drills, from ¼" to 1½".

Super TOOL COMPANY

DEPT. NO. 360 — 21650 HOOVER RD. • DETROIT 13, MICHIGAN — 5210 SAN FERNANDO RD. • LOS ANGELES 3, CALIF.

▲ For more details circle NED-298 L5 on enclosed inquiry slip ▲

New INDICATING TEMPERATURE CONTROL

E32N

New Design* Gives Control Point Accuracy Equivalent to Individually Calibrated Instruments

After many years experience in the design and manufacture of temperature and pressure controls United Electric has developed this instrument with a calibration feature designed so that it is even possible to replace the thermal unit in the field with no loss of calibration accuracy.

**Patent Applied For.*

FEATURES:

This precision built instrument designed to control and indicate temperatures of gases, liquids or hot plates over wide ranges has these important features:

- Calibrating mechanism permits precise matching of the scale to the individual tolerance errors of thermal assemblies.
- 12-inch scale allows easy reading of small values — even on wide ranges.
- Scale rotates against a fixed index pointer, placing all readings in a vertical and centered location.
- Automatic compensation for ambient temperatures.
- Models cover ranges from —150° F to +650° F.
- Bulb styles available for many applications — ovens, laboratory testing cabinets, molding machines, incubators, hot plates and water baths.

COMPENSATION:

Each model of the E32N is automatically compensated for ambient and overtravel temperatures to maintain control point at its calibration accuracy under all conditions met with controls of this type.

ACCESSORIES:

Capillary Armor • Separable Socket • Union Connector

New bulletin 42 contains complete information. SEND FOR IT TODAY.

UEC *United Electric Controls* COMPANY
21 SCHOOL STREET WATERTOWN MASS.

▲ For more details circle NED-299 L5 on enclosed inquiry slip ▲

DO YOU BUY DIMENSIONAL GAGES?

● *If so, don't you believe you should get the most unbiased recommendation from a manufacturer who makes ALL KINDS of modern gages?*

Where, then, can you get an unbiased recommendation? Federal not only makes Dial Indicating Gages and an Air Gage—the Dimensionair, unequalled for jobs when an air gage is required—*BUT Federal makes a complete line of ALL modern gages* including Dial Indicating Gages and Air Gages as well as combinations of various gaging and sorting systems for in-process gaging, machine control, and general automation. *Before* you decide what gages you need, bring your problems to Federal. Our engineers, without bias, will suggest the *best* solution . . . and may save you considerable money. Write or call us today.

AIR-ELECTRIC GAGES
AIR GAGES
AUTOMATION GAGES
DIAL GAGES
DIAL INDICATORS
ELECTRIC-DIAL INDICATOR GAGES
ELECTRONIC GAGES
GRINDING GAGES
INDICATING MICROMETERS
MULTIPLE DIMENSION GAGES
THOUSANDS OF SPECIAL DESIGNS FOR THOUSANDS OF SPECIAL NEEDS

FEDERAL PRODUCTS CORPORATION
51711 Eddy St. • Providence 1, Rhode Island

Ask FEDERAL First
FOR RECOMMENDATIONS IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

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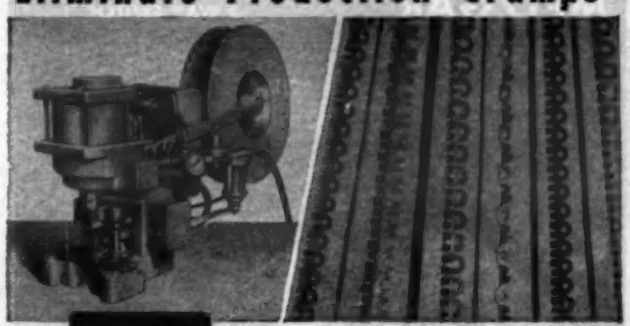
Eliminate Production Cramps



with P-M

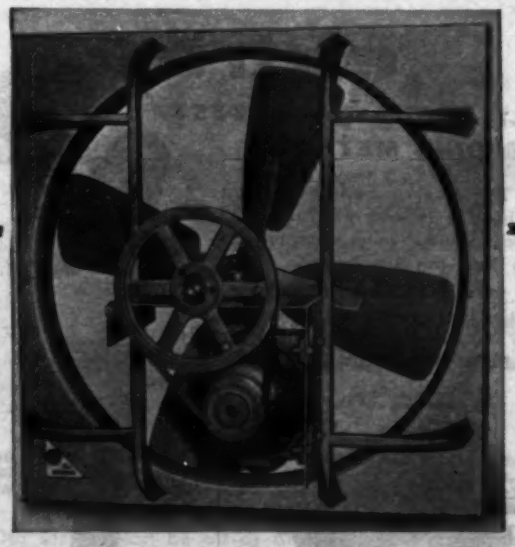
COLD CRIMPING MACHINE

Here's the modern, low-cost method for volume electric terminal attaching. This rugged machine uses P-M strip terminals in continuous form from disposable reels. It automatically crimps and cuts off through simple, quiet air pressure operation.

Get the facts on the many advanced design features of this low-cost P-M machine that makes tool changing a cinch. Ask for catalog page and information on the complete line of P-M strip terminals.

P-M PATTON-MacGUYER COMPANY
16 Virginia Ave., Providence, R. I.

▲ For more details circle NED-301 L5 on enclosed inquiry slip ▲



"Buffalo" Design 53 Package Propeller Fan

PLANT VENTILATION COSTS LESS

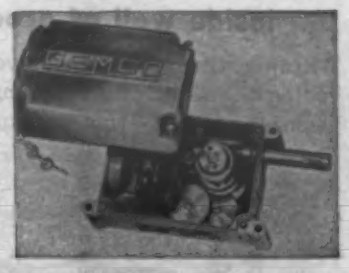
—when you install these ready-to-run "Buffalo" Package Propeller Fans! Just mount them in windows, wall openings. Sizes 8" (500 cfm) to 144" (250,000 cfm). Certified PFMA Ratings, a range that now brings you big-fan ventilation at propeller fan cost. *Efficient*—one multiple installation delivering 1,439,000 cfm on only 66 total H.P.!
WRITE TODAY FOR BULLETIN FM-1234.

BUFFALO FORGE COMPANY
215 Mortimer St. Buffalo, N. Y.

PUBLISHERS OF "FAN ENGINEERING" HANDBOOK
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Sales Representatives in all Principal Cities
INDUSTRIAL EXHAUSTERS • BELTED VENT SETS
PROPELLER FANS • "E" BLOWERS-EXHAUSTERS

▲ For more details circle NED-302 L5 on enclosed inquiry slip ▲

ROTARY LIMIT SWITCH
250, 500 and 1000 to 1 ratios



Machine tools, handling devices and rotary operators where motion is expressed in shaft rotation are applications for the model B rotary limit switch. Made in ratios of 250, 500 and 1000 to 1, the switch is supplied in a molded glass fiber alloy case. Two Micro switches, operated by independently adjustable cams, provide upper and lower limits. Special models are available in explosionproof enclosures. Made by **Gemco Electric Co.**, 25685 W. Eight Mile Rd., Detroit 19, Mich.

▲ For more details circle NED-303 L5 on enclosed inquiry slip ▲

TOILET SEAT COVERS
dispenser holds pack of 250

Made of bleached, fast-disintegrating tissue, Shieldor paper toilet seat covers are usable in industrial washrooms. They feature a center flap design that insures automatic disposal. Folded covers are packaged in lots of 250, this quantity fitting in the Fortress model dispenser, made of high impact strength styrene plastic. Standard dispenser is white and chrome, but it can be ordered in pastel colors. Bar attachment permits installation on marble or tile without drilling holes. Made by **Clark Paper Converting Corp.**, Dept. A, 5851 Holmes Ave., Los Angeles 1, Calif.

▲ For more details circle NED-304 L5 on enclosed inquiry slip ▲

WEIGHT-SENSITIVE CELLS
cover 500 to 10,000 lb range

Small size, resistance to overload, low cost and resistance to corrosion and weather are features of this Contact Cell which operates at one predetermined load point. Subminiature MicroSwitch and mechanism is hermetically sealed in a stainless steel case. Cell operates at 1 amp, 125 v ac and is currently available in ranges of 500 to 10,000 lb. Made by **Control Cells Corp.**, Box 337, Boulder, Colo.

▲ For more details circle NED-305 L5 on enclosed inquiry slip ▲

Linde FINE ALUMINA POWDERS
Trade-Mark

UNIVERSAL METALLOGRAPHIC POLISHING COMPOUNDS

For preparing samples of materials as widely divergent as pure lead, brass, steel, cast iron, and cemented carbides, LINDE fine alumina powders can be used with only slight modifications in a single basic polishing technique. In addition to their versatility, these powders have the added advantages of uniformity of particle size, fast cutting action, low cost, and ease of use.

Two types are available. Type A produces a clear unsmeared finish for routine examination. Type B produces an extremely fine finish suitable for photographing at magnifications of 1000 or higher.

For detailed information on the properties of these powders, call or write your nearest LINDE office.

*

Linde Air Products Company
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street UCC New York 17, N. Y.
Offices in Other Principal Cities

"Linde" is a registered trade-mark of Union Carbide and Carbon Corporation.

▲ For more details circle NED-306 L5 on enclosed inquiry slip ▲

The MODERN WAY
to do all types of
TACKING and FASTENING
—FASTER-BETTER—
HANSEN TACKER

1001 USES

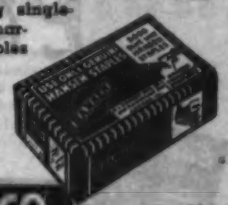
- LOW VOLTAGE ELECTRIC WIRES
- AIR CONDITIONING FILTERS
- TAPE ON VENETIAN BLINDS
- SILK SCREEN PROCESS
- FELT WEATHER-STRIP
- BAFFLE BOARDS, RADIO CABINETS
- FELT PADDING FOR SHIPPING CASES

EASY PORTABILITY—one-hand operation — compactness — adaptability — ready use in close or cramped quarters — these features make HANSEN a time and labor-saver in industrial fastening.

36 MODELS—80 STAPLE SIZES

LISTED are a few of the many operations to which HANSEN is suited in all types of tacking and fastening. Models available for driving single-leg, double-leg, narrow-crown staples up to ½" length.

For BEST RESULTS use only genuine Hansen Staples in the BLUE BOX . . .



A. L. HANSEN MFG. CO.
5164 Ravenswood Ave., Chicago 40, Ill.
Request Booklet ...TODAY

▲ For more details circle NED-307 L5 on enclosed inquiry slip ▲

cuts production cleaning time IN HALF
at BALDWIN-LIMA-HAMILTON corp.

At the Baldwin-Lima-Hamilton Corp. plant in Philadelphia, cleaning of chips, rust and oil is a big problem. The large castings and weldments they use in the manufacture of locomotives and diesel engines have to be carefully cleaned after machining to assure proper assembly and painting.

Previously they had used a wire brush and an air hose, but this caused cuttings and rust to fall on other finished work.

Then they installed "Tornado cleaning." With the powerful suction of their Tornado "Jumbo" (325 m.p.h. suction speeds) all oil, chips and rust are quickly picked up and deposited in a 55 gallon drum—cuts cleaning time in half.

The Tornado Jumbo conversion fits any standard 55 gallon drum and can be quickly moved from drum to drum as they are filled.

Tornado supplies a complete line of industrial cleaning equipment for every need. Write for an "in your plant" demonstration.

WRITE FOR TORNADO JUMBO CONVERSION BULLETIN 694 TODAY

BREUER ELECTRIC MFG. CO.
5116 North Ravenswood Avenue • Chicago 40, Illinois

▲ For more details circle NED-308 L5 on enclosed inquiry slip ▲

PORTABLE MIXERS

. . . offer ECONOMY

Operating expenses dip to a new low when you choose Portable Mixers from the complete Eastern Series. Available from 1/20 to 5 H.P. with a variety of speeds and motor enclosures. Your small initial investment pays rich dividends in economy.

For complete mixer selection information write for Eastern Catalog 510-A

Eastern INDUSTRIES, INC.
REGENT ST., E. NORWALK, CONN.

▲ For more details circle NED-309 L5 on enclosed inquiry slip ▲

PROCESS SAFETY DEVICE
warns of hydrogen corrosion on inside wall of process tanks

Warning that dangerous hydrogen blisters are corroding the walls of oil refining or chemical processing tanks is given by this Hydrogen Probe safety device.

Probe is seamless carbon steel tube, one end of which is closed and machined thin to form a corrosion sensing area. This end is inserted into tank while other end extends outside the tank. Should a hydrogen blister-forming condition occur in the tank, blisters will form inside the thin-walled sensing area of the probe before excessive damage is done to tank wall. Hydrogen shows its presence on pressure gage to warn process operator.

Probes can be removed and inspected or replaced without shutting down the tank. They are made 18, 24 or 36 in. long for different size tanks and can have flanged, threaded or pressure lubricated mountings. Made by **Texsteam Corp.**, Dept. PR 28, 320 Hughes St., Houston 11, Tex.

▲ For more details circle NED-311 L5 on enclosed inquiry slip ▲

specify McGILL®

CAMROL TRADE MARK

The Original Cam Follower

And only McGill has had this experience because they designed and built the first roller bearing Cam Follower almost 20 years ago. Living with thousands of subsequent applications pointed the way to refinements in design and advances in manufacturing methods not to be duplicated. The resulting CAMROL Cam Follower is right for any cam action application. Avoid substitutes and specify CAMROL — the original Cam Follower with proven performance.

Send for McGILL Catalog No. 52.

50th Anniversary

YOU CAN DEPEND ON McGILL QUALITY

McGILL MANUFACTURING CO., INC. 101 N. Lafayette St. Valparaiso, Indiana

▲ For more details circle NED-314 L5 on enclosed inquiry slip ▲

VOLTAGE BREAKDOWN TESTER
range is from 0 to 100,000 v ac

A continuously variable voltage range from 0 to 100,000 v ac is covered by type PA-50 high voltage breakdown tester for laboratory or production testing of electrical insulating tapes, plastic sheets, and transformers. Tester is entirely self-contained and incorporates automatic rate of rise with any ASTM rate, and metering provisions which hold breakdown voltage on meter if breakdown occurs. Unit is rated at 5 kva available at breakdown. Wide variety of ASTM and special testing jigs is available. Instrument is housed in 6½-ft high 30-in. relay rack. Safety interlocks are installed on all doors. Made by **Industrial Instruments, Inc.**, 89 Commerce Rd., Cedar Grove, N. J.

▲ For more details circle NED-312 L5 on enclosed inquiry slip ▲

FOR QUICK, ON-THE-SPOT

INSTALLATION and REPAIR...

REDI-BOLT

THREADED STEEL RODS

13 SIZES 3/16" to 1-1/2"

CUT TO LENGTH YOU NEED

HEAT AND BEND TO ANY SHAPE

NO SPECIAL BOLT INVENTORIES

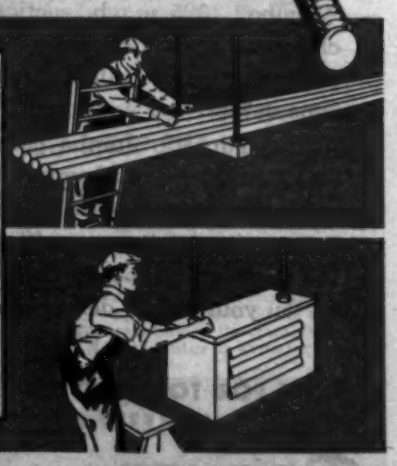
NO THREADING NECESSARY

Here's a versatile, new installation and repair material with 1001 industrial applications! If you want to get machinery back to work with the least possible delay . . . or make an installation promptly and easily . . . REDI-BOLT is the answer. Save time, trouble, and money with this precision-threaded, rust-resistant steel rod. It eliminates big "special bolt" inventories, too. REDI-BOLT is cold drawn —20% stronger than ordinary steel! Available in 24" and 36" lengths (other lengths on special order) with *Standard National Coarse* and *SAE* or *National Fine* threads.

FOR HANGING PIPE, DUCT OR EQUIPMENT

Hang steam and water pipes, ducts, and conduit *more easily*. Needs no threading.

Mount machinery on floors or benches . . . equipment on panels or walls!



USE IT FOR PRODUCTION RUNS, TOO

Ask your Mill Supply House, or write

REDI-BOLT, Inc., 5312 Indianapolis Blvd., East Chicago, Ind.

▲ For more details circle NED-316 L5 on enclosed inquiry slip ▲

New...Binks Material Handling Pump

Completely designed, engineered and manufactured by BINKS

Better "10" ways and here's why:
1. Reserve power.—2. Operates slower *but delivers more.*—3. Saves time—speeds production.—4. Handles wide range of materials.—5. Uniform flow.—6. Superior agitation.—7. No spillage or contamination.—8. Pumps from original 5 or 55 gallon container.—9. Requires no lubrication.—10. Backed by Binks' nationwide service.

FOR FURTHER INFORMATION on these completely new material handling pumps, see your industrial distributor, or write to:

BINKS MANUFACTURING COMPANY
3122-34 West Carroll Avenue Chicago 12, Ill.

Binks EVERYTHING

GUNS COMPRESSORS FREE INSTRUCTION

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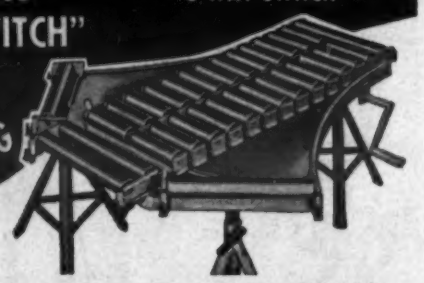
METZGAR "FLEX-A-SWITCH"

ECONOMICAL DEPENDABLE FAST SWITCHING



Three Way "Flex-A-Switch" with standard manual control.

Metzgar "Flex-A-Switch" in wheel or roller models feature all axles concentric at any setting to assure accurate line of travel. Easy running — ball bearing throughout.

Two Way "Flex-A-Switch" at right used with 45° curve to effect a 90° turn, and with electric control (extra). Manual control is standard.

Specific details furnished on request. No obligation.

METZGAR CONVEYOR CO.

416 Douglas St., N. W.

MFRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES

GRAND RAPIDS 4, MICH.

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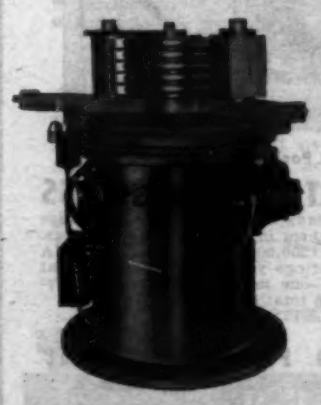
extra!

ALL ABOUT THE LATEST BENDING METHODS

Let Pedrick show you how the latest methods of bending pipe, tube and structural metal—on a job or production basis—can save you money.

For full information on Pedrick Production Benders, write PEDRICK TOOL AND MACHINE CO., 3640 N. Lawrence St., Phila. 40, Pa. Dept. 6.



FREE "PEDRICK LINE" BULLETIN WRITE TODAY.

PEDRICK production benders

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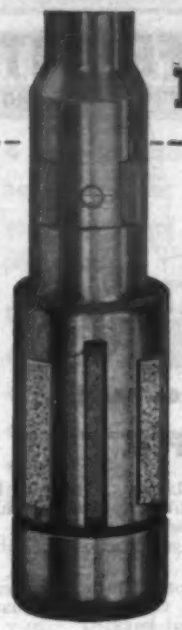

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Honing Tools and Abrasives

Give You these Features

- Maximum Body Support At Cutting Edges — results in freer cutting and less spalling
- "Extra Deep" Plas-T-Clad Stones — provide more usable abrasive and more positive support closer to the cutting edge
- Plugmatic Sizing for Positive Bore-to-Bore Accuracy — sizes only on the bore, not affected by stone wear — self-aligning

Write For Catalog 500Y

BARNES DRILL CO.

866 CHESTNUT ST. • ROCKFORD, ILLINOIS

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describes Rotary Card Files by
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It's filled with proven ideas that will help you get better results from record systems of all kinds, including inventory . . . personnel . . . cost . . . production . . . sales . . . service . . . and maintenance. Write today for a copy of this 20-page multi-colored catalog "Across The Land It's Cardineer."

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Canton 2, Ohio

H-201-D1

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CONNEAUT

can give you faster, more efficient service on custom *plastic*

EXTRUSIONS

Our service can be all or any part of a complete "package" from special compounding to meet tough design specifications, to production runs to meet your delivery requirements. Write for fully illustrated brochure CR-53 containing complete details of our plastic extruding experience and facilities. If you have an extrusion problem needing immediate attention, send drawings and data for analysis and recommendations. No obligation.

429D

CONNEAUT RUBBER & PLASTIC COMPANY
Conneaut, Ohio

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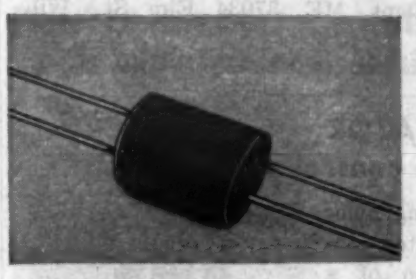
RUBBER DRUM TILTER
eliminates spillage and waste

Light in weight and portable, the figure 522 tilter for pouring from rubber chemical and solvent drums features a nonslip clamp that securely holds the drum. Unit is easily loaded and, because of controlled pouring, it eliminates spillage and waste of contents. It is of welded construction and accommodates 13-gal capacity drums, but can be furnished for other sizes. Made by **Nutting Truck & Caster Co.**, 1201 W. Division St., Faribault, Minn.

▲ For more details circle NED-320 L5 on enclosed inquiry slip ▲

RESISTOR ASSEMBLY
has two encapsulated resistors



This encapsulated thermally - similar resistor assembly is designed to meet the needs of applications requiring identical resistance change characteristics. Two precision deposited-carbon resistors with nearly identical temperature coefficients are encapsulated in a single assembly. This increases the reliability of the individual units when used under extreme humidity, vibration and altitude conditions. Made by **Clarostat Mfg. Co.**, Washington St., Dover, N. H.

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WIRE DEREELER
for wire packed in drums or pails

Breakage, snarling and kinking of wire is prevented by the Fasco magnet wire dereeler, attached to fiber drums and steel pails in which wire is shipped. It is adaptable to various types of containers furnished by leading suppliers. Features include infinite tension control and visibility of wire in the package. Models are available for use with 200 and 500-lb fiber drums and 5-gal steel pails. Made by **Fasco Industries, Inc.**, 230 Toppin St., Rochester 2, N. Y.

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CHECK 100 FACTS . . .
about the *NEW*

TOTALLY PROTECTED

MOTORS

Write today for your copy of this new Bulletin B-2401, or call your nearest Reliance district sales office or distributor.

B-1400-D

RELIANCE Precision Ball MOTORS

RELIANCE ELECTRIC AND ENGINEERING CO.
1082 Ivanhoe Road • Cleveland 10, Ohio
Canadian Division: Welland, Ontario

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Hanna *Fluid Power* Cylinders give you

POWER for production

Hanna Pneumatic and Hydraulic Cylinder power helps cut production costs and increase production in your plant by replacing manual operations with perfectly controlled power. "Cylinder Power in Action" shows you 27 different ways you can put Hanna Cylinders to work for you. Write for free Bulletin 255 TODAY!

Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT — CYLINDERS — VALVES — SYSTEMS

1759 ELSTON AVENUE • CHICAGO 22, ILLINOIS

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Here's How
GITS
Provides
Low-Cost Replacement Of YOUR Lubricating Devices

OIL HOLE COVERS

This model is designed to fit into a simple drilled hole. Ideal for use on small motors, generators, starters and light machinery —for dependable oil hole protection at moderate cost. Larger sizes frequently used as filler caps on tanks or reservoirs. Style R—No. 305.

SIGHT GRAVITY FEED MULTIPLE OILERS

This one unit replaces 3 to 8 individual oilers. Maximum practicality in a small central lubrication system. Positive cut-off during idle periods. Individual vibration-proof needle valve adjustments. With solenoid control (illustrated): Style MDS—No. 4685-A. Without solenoid: Style MD.

Too much machine "down-time"? Too much time wasted in servicing your machinery? Perhaps some old, worn lubricating devices need replacement. Maybe a different, more modern device will do the job more efficiently. Whenever you replace, specify GITS Lubricating Devices—the widest selection available anywhere, right in stock. The items pictured above are only a few of our many thousands of lubricating devices. Send NOW for your free Catalog.

GITS BROS. MFG. CO.
The Standard For Industry For Almost Half A Century
1833 South Kilbourn Avenue
Chicago 23, Illinois

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● You can obtain custom-cut felt parts from American, ready for assembly. Gaskets, washers, seals, wicks, discs — any shape you need, with tolerances to meet your specifications.

QUICK DELIVERY — American operates four strategically-located cutting shops at: Glenville, Conn., Detroit, Mich., Los Angeles and San Francisco, Calif. These deliver promptly.

QUALITY — American produces felt to exact specifications, uniform in density, blend, thickness, strength. We will cooperate with you in designing felt parts and specifying the right felt for commercial or government applications.

QUOTATIONS — Write to above address.

American Felt Company
TRADE MARK

GENERAL OFFICES:
6" GLENVILLE ROAD,
GLENVILLE, CONN.

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Keep production costs in line with automatically computed, precision Calculagraph job time records. Just stamp card at beginning and ending of the operation. Calculagraph prints date, starting and finishing time plus precision calculated elapsed time. One Calculagraph can record and compute job time data for one entire shop or department by handling any number of cards in any sequence. Accurate, printed Calculagraph records can be filed for future use in estimating on new orders and checking production efficiency. Calculagraphs are low in cost, practically maintenance-free and built for a lifetime of dependable service.

Agents in Principal Cities; Ask for a Demonstration—
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CALCULAGRAPH COMPANY
SUSSEX STREET, HARRISON, NEW JERSEY

Send complete data on Calculagraph to:

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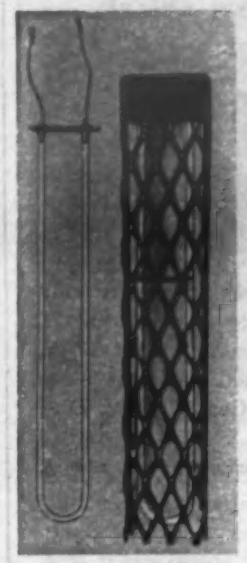
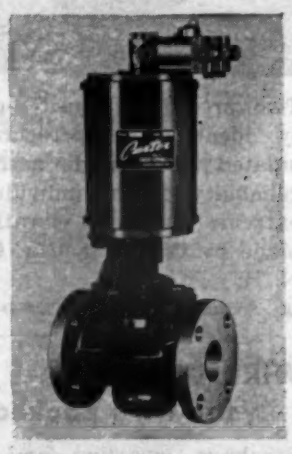
QUARTZ IMMERSION HEATERS for electroplating and pickling baths



Accuracy in controlling bath temperatures of acid electroplating and pickling solutions is assured by line of Glo-Quartz U-type immersion heaters. These electric, radiant, translucent, fused-quartz heaters heat instantly, are shortproof, and have thermal and shockproof construction and long life. Thermal lag between thermostat and heater is virtually nil. Heater consists of U-shaped quartz heating element and junction box and guard assembly. Element is mounted inside the quartz tube and coil is supported with heat-conducting powder. Hermetic sealing locks out acid fumes. Heaters are made in standard voltages and wattages by **Glo-Quartz Electric Heater Co.**, Dept. ME, 37934 Elm St., Willoughby, O.

▲ For more details circle NED-328 L5 on enclosed inquiry slip ▲

ROTARY ACTUATOR for remote control of valves



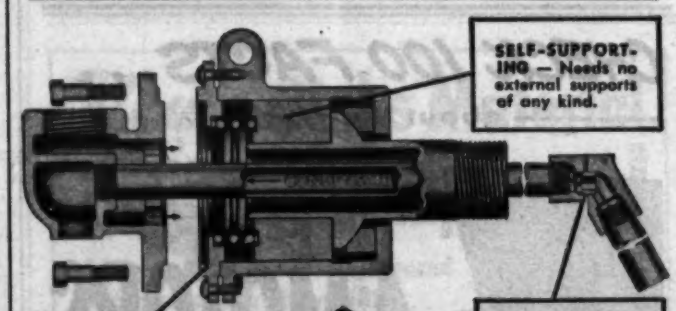
Internal helix arrangement of this rotary actuator converts in-line motion of a hydraulic or pneumatic cylinder into a rotary movement for remote control of valves. It can be operated with air, gas or hydraulic pressure. Any degree of rotary movement from 0 to 360 degrees or more can be achieved by increasing overall length of helix piston rod assembly. Actuator can be made to stop at any rotation point through use of switching. By using a slip clutch in the unit, varied rotary sequences can be obtained. Five standard models with bores ranging from 3 to 8 in. provide torques of 350 to 3360 lb-in. Mounting brackets for all makes of valves are available. Made by **Carter Controls, Inc.**, 2876 Bernice Rd., Lansing, Ill.

▲ For more details circle NED-329 L5 on enclosed inquiry slip ▲

Ventilating Fans

American Blower Corp.—Model B light duty and model E heavy duty industrial ventilating fans are described in 4-page catalog 7214. Tables of performance data are included for the V-belt driven units. Installation drawings are included for eight models in each line. Outputs range up to 79,000 cfm free air.

▲ For more details circle NED-330 L5 on enclosed inquiry slip ▲



Johnson Rotary Joint with SYPHON ELBOW

Johnson Joints represent the best way industry has yet found to get steam or liquids into rotating rolls and cylinders. They are completely packless, need no lubrication or adjustment. The Type SBP shown gets steam in, condensate out, through the same head. Other types available for through flow service, in sizes to meet all operating needs. *WRITE FOR COMPLETE INFORMATION.*

The Johnson Corporation
812 Wood St., Three Rivers, Mich.

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the NEW USG SOLFRUNT®
(SOLID FRONT CONSTRUCTION)

the gauge with
BUILT-IN SAFETY!

There's safety with the new USG Solfrunt Gauge . . . behind the face is a solid metal wall! Should Bourdon tube rupture, pressure is released through rubber blowout back. Case is aluminum.

Like USG's Supergauge . . . with proper application . . . the Solfrunt is built to last a lifetime.

ARC-LOC MOVEMENT—Rugged beyond compare . . . broad generated gear faces, deep stainless steel bushings. Calibration adjustments from rear by merely removing blowout back.

SEGMENT—Stainless steel, with nylon-faced gear section. Nylon-to-metal bond stabilizes the nylon against expansion and contraction under severe temperature and moisture conditions.

LEGEND ON DIAL—gives complete description of socket, Bourdon tube, and movement material.

MICROMETER ADJUSTABLE SELF-LOCKING POINTER—permits accurate repositioning of pointer.

Solfrunt Gauges available in 4½", 6" and 8½" sizes. For complete information, write for Publication 1819.

UNITED STATES GAUGE USG *Gauge Headquarters* FOR OVER 50 YEARS

United States Gauge, Division of American Machine & Metals, Inc., 110 Clymer Avenue, Sellersville, Pa.

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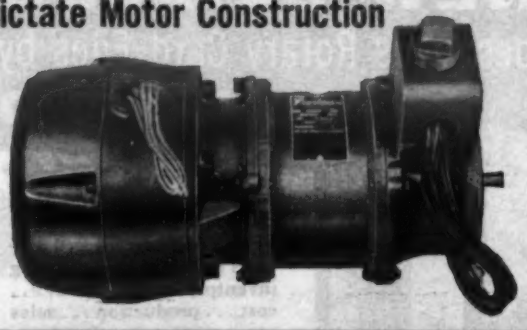
where SPECIAL REQUIREMENTS dictate Motor Construction



This peculiarly shaped motor opens and closes pipe line valves without fail in all types of weather. It is a special weatherproof torque motor designed by Peerless Electric in cooperation with a valve manufacturer and is equipped with an electrically operated brake. The motor shown here measures approximately 10" in diameter and 31" in length but Peerless can produce it in many other sizes.

Submit your next motor problem to Peerless. We'll work with you to design or select the one motor that operates your product best.

ELECTRIC MOTOR DIVISION
THE Peerless® Electric COMPANY
FANS · BLOWERS · MOTORS · ELECTRONIC EQUIPMENT
1506 W. Market Street • Warren, Ohio

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NOW— MORE TONNAGE in ALL benchmasters

Benchmaster gives you a totally new series of presses—redesigned for *extra* tonnage, more performance! Available in plain, open-back inclinable types, back-geared types, fixed bed-gap frame models and half-presses!

New improved clutch designs and other features again make Benchmasters the *finest* in the field . . . America's favorite low-cost punch presses! See your Benchmaster dealer and write for latest literature!

1835 W. ROSECRANS AVENUE • GARDENA, CALIFORNIA

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RUBBER CUSHIONED ADJUSTABLE FEET

A handsome sturdy part that provides suction to hold appliance in place, absorb vibration, prevent marring of floors and improve product appearance.

USED ON:

- Quality Appliances
- Electronics Equipment
- Game Tables
- Movable Office Partitions
- Office Equipment

Now available from stock in two popular sizes:

1/2 —13 x 2"
5/16—18 x 2"

Our 50th Anniversary (1905-1955)

Samples and information furnished upon request

THE OHIO NUT AND BOLT COMPANY

Specialists in the Manufacture of Weld Fasteners and Adjusting Screws

14 First Avenue, Berea, Ohio

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General-engineered Wirebounds provide engineered protection and save big money, too!

The trend's to General-engineered wirebound boxes for shipping items weighing 500, 1,000, 5,000, even 10,000 pounds. Big products, heavy or not, pose protection problems regularly solved successfully by General's experienced testing and design engineers. And engineered wirebounds go together fast, often cut packing costs in half. To have a General man call, write direct.

SEND FOR FREE "Heavy-Duty" illustrated booklet. Shows examples of big product packaging. Gives weights and costs saved.

General Box

1849 Miner St., Des Plaines, Ill.

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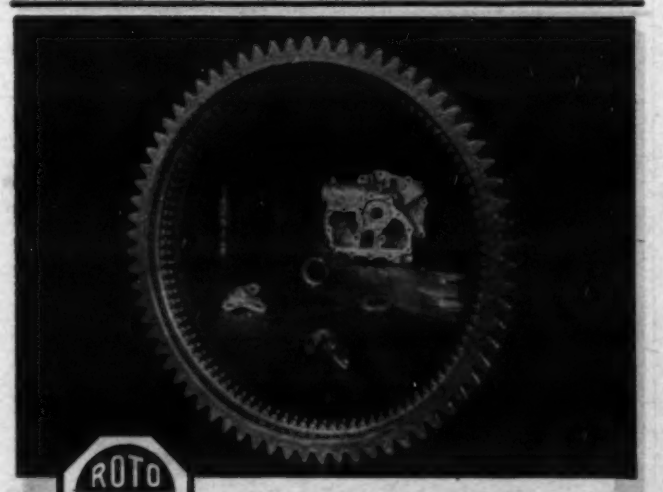

ROTO FINISH

it's the finish that counts!

Roto-Finish maintains exact tolerances on precision parts with no significant dimensional changes. It makes possible a wide range of finishes applicable to parts of almost any size or shape; finishes a variety of materials — at big savings in manpower and costs. Without obligation, send sample unfinished parts to us. Include finished part for guide and your specifications. Roto-Finish will finish parts in its laboratory. You get a complete process report. You are guaranteed results and a finish that counts!

WRITE FOR FACT-PACKED ROTO-FINISH CATALOG NOW!

Roto-Finish COMPANY

5708 MILHAM ROAD, KALAMAZOO, MICH.

P. O. Box 988 — Phone 3-5576

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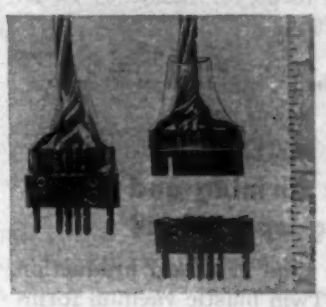
BAR STORAGE RACK designed to stand against wall

Suited to space-limited areas, this single-side vertical bar stock rack will stand up against a wall. Rack measures 24 x 36 x 84 in., weighs 140 lb and will store bars up to 12 ft long. Framework is 1½ x 1½ x ⅛-in. angle iron, arc-welded for rigidity. Three 12-gage steel shelves welded to angle iron spacers makes unit solid. Since welded parts are bolted together, rack can be quickly assembled. Made by **Pollard Brothers Mfg. Co.**, 5503 Northwest Highway, Chicago 30, Ill.

▲ For more details circle NED-338 L5 on enclosed inquiry slip ▲

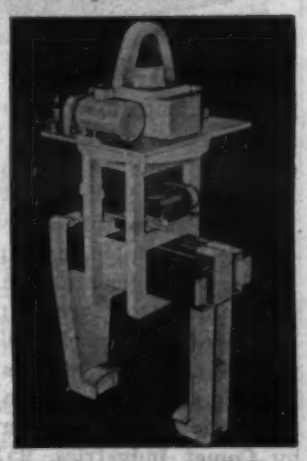
PRINTED CIRCUIT CONNECTORS in miniature and subminiature types



Available in production quantities in both miniature and subminiature series, these male printed circuit connectors have high insulation value and resistance to humidity. Sustained near - perfect contact is maintained with shot-burnished gold deposition on the contact surfaces. Vinyl insulating hood provides mold for potting of connectors, if desired. Made by **Circon Component Co.**, Sales Dept., 17544 Raymer St., Northridge, Calif.

▲ For more details circle NED-339 L5 on enclosed inquiry slip ▲

COILED STEEL GRAB uses minimum of aisle space



Pick-up and release of steel coils by the model G-1608-25MA grab are motor actuated and controlled remotely from the crane cab or by the floor operator. It uses a minimum of aisle space. Model shown has a motor driven turntable, but grab is available without this feature. This model is designed for warehouse, converter or similar applications, with a heavier duty unit recommended for steel mills. Made by **Mansaver Industries, Inc.**, 3105 East St., New Haven 11, Conn.

▲ For more details circle NED-340 L5 on enclosed inquiry slip ▲

Get the Advantages of READY-POWER on Your Electric Industrial Trucks

Get Live Power for Walkie Trucks. Ready-Power's bantam model "W" offers a variety of idling speeds and easy accessibility.

Work Your Fork, Platform, Tractor Trucks 'Round the Clock. Ready-Power gas-electric and LPG-electric units give continuous, full power all the time.

Take a tip from the owners of industry's biggest trucks . . . power them with Ready-Power diesel-electric for maximum stamina, dependability, and lowest operating costs.

Your Truck is No Better than its Power . . . Write for information.

READY-POWER

The READY-POWER Co., 3432 GRAND RIVER AVE., DETROIT 8, MICH.

Manufacturers of Gas and Diesel Engine-Driven Generators and Air Conditioning Units; Gas and Diesel-Electric Power Units for Industrial Trucks

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sizes up!

General purpose SOLENOID VALVE ready now from 1¼" to 3"

The rugged bronze 8210A that has already gained wide acceptance in smaller sizes has now been specially designed for 1¼-3" pipe sizes, normally open or normally closed.

Long life is assured by:

1. *Simple construction*—only two moving assemblies, a bronze piston and stainless steel core.
2. *Elimination of water hammer*—accomplished by the cushioned closing of the slotted "V" type disc.

This compact valve will handle most non-corrosive fluids —air, gas and light oil for example. Pressures range to 250 p.s.i.; exceptional flow capacity is provided by full area ports and unique disc design. Available with standard, watertight or explosion proof enclosures. Low power consumption—10.5 or 20.5 watt coil ratings.

There's *one* source that solves virtually any solenoid valve problem — ASCO. Have the ASCO engineer call—or write for complete data on the 8210A Solenoid Valve line.

ASCO

Automatic Transfer Switches
Electromagnetic Controls
Solenoid Valves

Automatic Switch Co.

379-B Lakeside Avenue,
Orange, New Jersey

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New Type Of Soap That's Almost IMPOSSIBLE TO WASTE!

SBS-60 CREAM DEODORANT SOAP

MODERN LABORATORY EQUIPMENT and skilled chemists produced this first major soap development in decades . . . SBS-60

Presenting the first major soap development in a quarter of a century . . . savings on soap costs up to 50% assured

For the first time, the availability of SBS-60 Cream Deodorant Soap brings costly soap waste to an end for your company. Savings to 50% in costs are a matter of record . . . an end to costly soap dispensing problems is assured . . . improvements in employee morale is another dividend when SBS-60 Cream Deodorant Soap is used.

SEND FOR YOUR COPY OF THIS SPECIAL ANNOUNCEMENT LITERATURE

SUGAR BEET PRODUCTS CO., Saginaw 58, Mich.
Gentlemen: Rush me the special announcement on the new SBS-60 Cream Deodorant Soap.

Name_____
Title_____
Co._____
Address_____
City_____ Zone____ State____

Sugar Beet Products Co.
Chemical By-Products Division
205 Weiler St., Saginaw, Mich.

Canadian Subsidiary
Chemical By-Products, Ltd.
9 Ripley Ave., Toronto 2, Canada

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Commander TAPPER

★ Wider Range...1 Tapper Handles #0 to 3/4" Taps

★ Automatic Tap Protection

★ Furnished to fit any Drill Press

Commander—"The Tapper That Thinks For Its Operator," has the adjustable full range torque control that instantly stops any tap when it becomes dull, loaded, strikes a hard spot or bottoms in blind hole tapping. Assures maximum tap protection, higher production, even with inexperienced operators.

Your nearby Commander distributor can give you a demonstration in your own plant. Write for his name and a copy of the NEW Commander Full Line Catalog.

COMMANDER MFG. CO.
4220 W. Kinzie St. Chicago 24, Ill.

Product of Commander... Builder of Production Tools

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TESTS PROVE it pays to specify coatings formulated with BAKELITE Resins

Stops steel corrosion during storage

That is the case history of the Columbus Sucker Rod Company, Columbus, Ohio, about their profitable experience with coatings based on BAKELITE Brand Phenolic Resin.

As the formulator reports it: "there are couplings on the end of sucker rods (used in oil wells). Both the manufacturer as well as customers carry quite a stock of these steel rods in storage. The problem was that by the time they wanted to use them, the threads on the couplings were covered with rust."

Naturally, coatings were indicated, and tests conducted with the coated rods exposed to weathering during winter months. The result: the only rod showing no rust was one protected by a coating formulated with BAKELITE Resins.

Now, over three years later, they have had no further trouble and no complaints from customers on rusting of the threads.

Whether for steel, masonry, or whatever surface you wish . . . for maintenance or original equipment, there are a wide variety of thoroughly tested formulations based on BAKELITE Brand Resins that will give you superior service despite very difficult conditions of environment. For a free copy of "BAKELITE Resin Coatings for Industry" write Dept. KU-119.

BAKELITE BRAND Phenolic Resins

Vinyl, Phenolic, Epoxy, and Styrene Resins for Coatings

Data courtesy Tropical Paint Company, Cleveland 2, Ohio

BAKELITE COMPANY
A Division of Union Carbide and Carbon Corporation
UCC
30 East 42nd Street, New York 17, N. Y.
In Canada: Bakelite Company, Division of Union Carbide Canada Limited Belleville, Ontario

The term BAKELITE and the Trefoil Symbol are registered trade-marks of UCC

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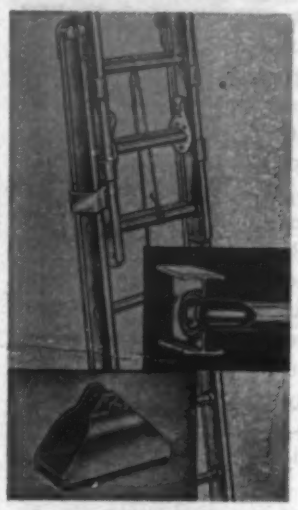
ALUMINUM LADDERS
single and extension units offered

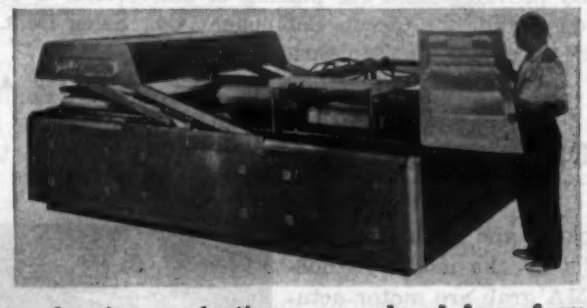


Improvements incorporated in the 900 series of industrial Alumiladders include I-beam channel construction which gives strength and rigidity with safety factor of four at all working lengths. Also featured are Alflo rung joints which are locked to the side rail. Joints prevent racking and cannot loosen. Top tips of ladders are coated with red vinyl for protection against marring as well as weather, oil and grease. Spring-loaded safety locks for ladder sections and aluminum safety shoes with skid-proof rubber treads are other features. Ladders are available in single units from 8 to 20 ft long, two-section extension units from 20 to 40 ft and three-section extensions from 40 to 60 ft. Made by **R. D. Werner Co.**, Dept. NED, 295 Fifth Ave., New York, N. Y.

▲ For more details circle NED-346 L5 on enclosed inquiry slip ▲

VACUUM FORMING MACHINE
for sheet plastic forming and blister packaging operations

Reduction of heating cycle time increases production of latest model Comet Pex-Twin plastic vacuum forming machine. For example, on refrigerator door-



liner forming, cycle time was reduced from former average of 2 minutes to 50 seconds. Special heating elements and use of heat only when carriage is directly over plastic sheet serve to minimize electric power consumption as well.

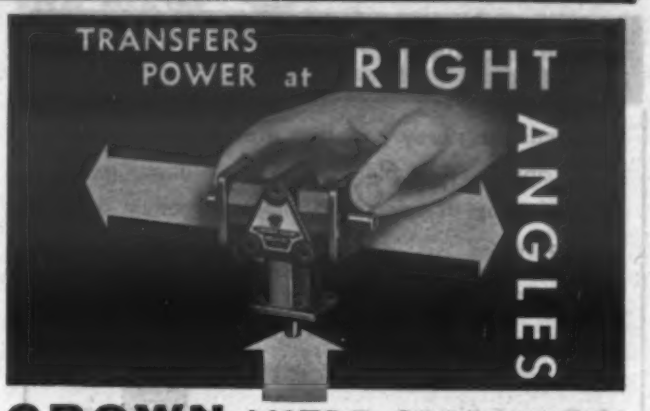
This twin-table, dual production machine is automatic with exception in insertion of plastic sheet and removal of formed part. One table can be unloaded and reloaded while other table runs through forming cycle. Unit has 48 x 72-in. mold area and handles sheet sizes up to 52 x 76 in. It also adapts to plastic skin and blister packaging operation. Made by **Comet Industries**, 9571 Franklin Ave., Franklin Park, Ill.

▲ For more details circle NED-347 L5 on enclosed inquiry slip ▲

SCHERR MAGNI-RAY

GEORGE SCHERR CO., Inc.
COMPLETE LINE OF PRECISION INSTRUMENTS
200-ND LAFAYETTE STREET • NEW YORK 12, N.Y.

▲ For more details circle NED-348 L5 on enclosed inquiry slip ▲



CROWN MITRE GEAR UNITS

. . . are an ideal solution to all types of right angle needs, and are especially adaptable to confined areas. They're small, rugged, quiet, and precision made. Crown Gear Units have matched "Zerol" hardened gears which are mounted in double shielded ball bearings, and completely enclosed. Re-lubrication, if necessary, is easily accomplished, and four or five mounting flanges provide easy installation.

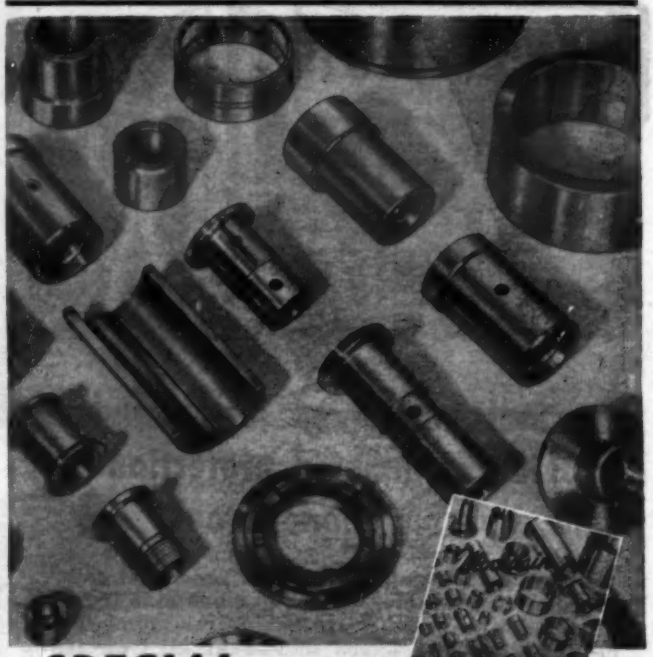
Special models will be engineered and quotations submitted for any specific problems. Write today for the name of your local distributor. Crown Gear Units are available almost everywhere. Write for engineering details.

CROWN GEAR
a division of Harrington & Richardson, Inc.
320 PARK AVENUE, WORCESTER 10, MASS.

Over 120 leading distributors in 43 States

Sold in Canada by H. & R. Arms Co., Ltd., Montreal 23, P. Q.

▲ For more details circle NED-349 L5 on enclosed inquiry slip ▲



SPECIAL BRONZE BUSHINGS

Made to your specifications and dimensional tolerances. Every order—large or small—delivered on schedule. For complete information on Moccasin Bushings, write for Engineering Data Chart No. 429.

Quality Bronze Since 1908

MOCCASIN BUSHING CO.
2000 CHESTNUT ST., CHATTANOOGA 8, TENN.

▲ For more details circle NED-350 L5 on enclosed inquiry slip ▲

▲ For more details circle NED-351 L5 on enclosed inquiry slip ▲

JOHN CRANE *announces*

a complete line of

TEFLON* BELLOWS

with companion flanges

"John Crane" chemically inert, corrosion, heat and fatigue resistant bellows are available with companion flanges conforming to American Standard bolt hole circles and numbers.

Strength, service life and flexibility have been increased through development of a new convolution form. Operating temperature ranges from −300°F. to +500°F. . . . pressures to 75 psi.

Bellows flanges are French-type gasket construction for highest sealing efficiency at low flange pressure. Resilient insert material is asbestos or synthetic rubber.

Recommended for vibration dampeners, expansion joints, flexible connectors. Supplied to fit any pipe size from ½" through 12". Other designs for metering pumps, pressure accumulators, batching scales, hydraulic systems, similar applications.

Send for full information. Crane Packing Co., 1811 Cuyler Ave., Chicago 13, Illinois. *In Canada: Crane Packing Co., Ltd., 617 Parkdale Ave., N., Hamilton, Ont.*

*DuPont trademark

JOHN CRANE **CRANE PACKING COMPANY**

OFFICES IN ALL PRINCIPAL CITIES

▲ For more details circle NED-352 L5 on enclosed inquiry slip ▲

NEW

MAKE ANY BOARD *an Adjustable* **DRAWING TABLE** with

The Safe-Lock *All-angle* **DRAWING STAND** Pat. Pend.

TABLE MODEL #713 only $7.95 ea. Use on any table or desk.

FLOOR MODEL #714 only $14.95 ea. Adjustable to sitting or standing height.

- Complete with screws for mounting to your board (up to 20" x 30").
- Locks in desired position.
- Non-slip rubber tipped legs.
- Easy to carry or store.
- Hand-polished precision machined aluminum.

• Ideal for ENGINEERS, DRAFTSMEN, IDEA MEN, ARTISTS, STUDENTS, etc.

ORDER TODAY

ARSCO AMERICAN INC., 3309 Edson Ave., New York 69, N.Y.

▲ For more details circle NED-353 L5 on enclosed inquiry slip ▲

NOW...a NEW LINE of Oilgear VARIABLE DELIVERY PUMPS

for applications up to 3 h.p.

Oilgear announces a new line of extremely versatile one-and two-way variable delivery pumps for straight-line and rotary applications. These are heavy duty "package" units that simplify linear and rotary drive systems . . . cut engineering, installation and maintenance costs . . . set new standards of dependability and performance and increase user acceptance. A type "A" pump, a cylinder and two pipe lines or a type "A" pump, Oilgear motor and three pipe lines complete the system. No auxiliary equipment is required. Seven standard, integral controls are available.

Write for free copy of new 8 page Bulletin 47010 that illustrates many representative pump and system circuits and typical applications. Write today. THE OILGEAR COMPANY, 1582 W. Pierce Street, Milwaukee 4, Wis.

▲ For more details circle NED-354 L5 on enclosed inquiry slip ▲

POWER OPERATED VALVE for air, gas, oil or water service

Power operation to forward, reverse and neutral is standard in model PON power operated valve. It is a standard four-way disk valve for air, gas, oil or water service that is controlled by a three-position power attachment operated by air or gas. Designed for remote control and automatic operation, it has a molybdenum alloy semisteel body and chrome plated surface in the body for smooth action. Integral disk and stem provide rigidity. Made by **Ledeen Mfg. Co.,** 1602 S. San Pedro St., Los Angeles 15, Calif.

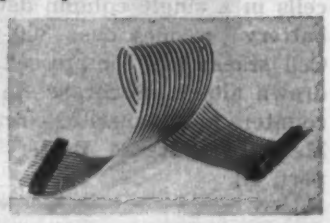
▲ For more details circle NED-355 L5 on enclosed inquiry slip ▲

DIE-CUT STENCIL for shipping and product labels

Supplied cut and ready to print with constant or standard information, Kustom-Kut die cut paper stencil is filled in with variable information on a typewriter or by hand stylus just before using. It is designed to expedite multiple addressing and marking of shipments. Stencil is used with either a Weber label printing machine or Weber hand-printers for imprinting label facsimiles directly on containers. Present labels or forms can be reproduced on the stencils. Made by **Weber Addressing Machine Co.,** Weber Marking Systems Div., 202 W. Central Rd., Mt. Prospect, Ill.

▲ For more details circle NED-356 L5 on enclosed inquiry slip ▲

PRINTED CIRCUIT CABLES are flexible copper-plastic units



Made by laminating Kel-F plastic with copper in thin sheets, flexible printed circuit cables have excellent electrical and mechanical properties. Complete encapsulation of the conductors gives protection against moisture. Glass cloth can be used in the laminations for increased strength and stability at higher temperatures. Adaptable to many types of connectors or terminations, they are easily secured by clamps, rivets or cement. Additional conducting and insulating layers can be added to the basic cable to give a greater number of conductors. Made by **Sanders Associates, Inc.,** 131 Canal St., Nashua, N. H.

▲ For more details circle NED-357 L5 on enclosed inquiry slip ▲

Magnet-Lead Replacement *Simplified* with *Solderless* Connectors and Couplers

EC&M circular Lifting Magnets are now equipped with *Solderless* Connectors and Couplers. The Couplers shown at the top of the above illustration are used a short distance after the lead leaves the magnet terminal-box. From this point on, magnet-leads are subject to damage and should be easily replaceable. The new clasp-type connectors for power lead connections are shown in the two bottom views above.

These new magnet couplers and connectors are rated 100-amperes continuous and will accommodate No. 4, 6 or 8 flexible cable. Each Cat. No. 3190-A Coupler and Cat. No. 3189-A Connector is supplied with its neoprene telescoping, insulating jackets.

WRITE FOR CATALOG 9-900

EC&M THE ELECTRIC CONTROLLER & MFG. CO.

▲ For more details circle NED-358 L5 on enclosed inquiry slip ▲

NOW! LIFT RECORDS PLUS...

..BUSY AND IDLE TIME CHARTED BY SERVIS RECORDER

Now a new model Servis Recorder! Equipped with a Barksdale Hydraulic Pressure Switch, it records every productive load that exceeds a predetermined weight. Doesn't "weigh" a load, merely tells number of "good loads" a truck makes every day.

Originated in 1911, Servis Recorders have been faithfully charting idle and running time of industrial equipment. Now on the same permanent record you can get more complete cost information for each of your trucks. These same easily read charts are accurate for accounting needs, incentive pay systems and for maintenance scheduling.

Write today for complete facts.

THE SERVICE RECORDER COMPANY
1375A Euclid Avenue • Cleveland 15, Ohio

▲ For more details circle NED-359 L5 on enclosed inquiry slip ▲

B.F.Goodrich

Industrial tires used 100% by bearing factory to keep production rolling

THE Bower Roller Bearing Company manufactures all types of bearings at its Detroit, Michigan, factory. 25 to 30 materials handling units operate in nearly every department, hauling raw materials, finished products and scrap. And all this equipment rolls on B. F. Goodrich industrial tires.

Why? Because, says Plant Superintendent A. F. Madison, B. F. Goodrich industrial tires do a better job of combating iron and steel scrap, oily floors and other tire hazards. Thanks to the B. F. Goodrich Tire and Wheel Analysis Plan, Bower equipment rolls on the right kind of tire—and that means the company gets longer tire life, saves money.

How you can save money on industrial tires

Call your B. F. Goodrich Tire and Wheel Analysis man. He'll study your materials handling equipment, loads, hauling surfaces and any special problems you have. Then he'll recommend the right tires for you to use—the right size, tread design and tread compound. The recommendations he makes are unbiased, because B. F. Goodrich makes a *complete* line of industrial tires. And this TW Analysis *costs you nothing!* Put your equipment on the right kind of rubber. It will save you money. BFG consulting service is also available to materials handling equipment manufacturers.

Specify B. F. Goodrich tires when ordering new equipment

The B. F. Goodrich Company
Tire & Equipment Division
Department TW-546, Akron 18, Ohio

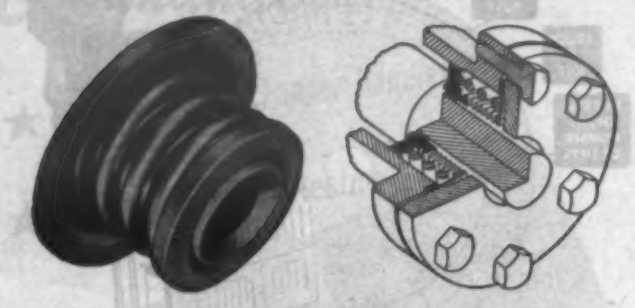
Please send me additional information on your Tire and Wheel Analysis Plan

Name_____
Company_____
Street_____
City_____ Zone____ State____

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

▲ For more details circle NED-360 L5 on enclosed inquiry slip ▲

BELLOWS TYPE SHAFT SEALS



Bellows type seals, having all-metallic construction and certain inherent design advantages, are ideal for sealing shafts operating under severe conditions of high pressure and temperature, corrosion, shock, vibration and misalignment.

In high pressure service, the sealing thrust of the nose piece remains constant and at full value regardless of pressure changes within the system. Power output of the shaft also remains unaffected by pressure changes and no "take-up" is required for the life of the seal.

All-metallic construction makes bellows seals highly effective over the extreme temperature ranges encountered in aircraft and military applications.

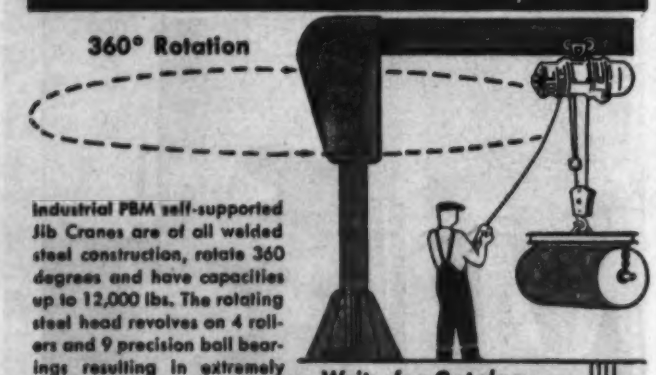
Shock, vibration and misalignment problems are frequently overcome by these seals since bellows are inherently flexible. With a back-up spring incorporated in the design, they are ideal for heavy duty sealing on torque converter shafts of trucks, military tanks and other heavy equipment operating under severe load.

Data Sheet 860-1 gives full details. Offered free by Clifford Manufacturing Company, 146 Grove Street, Waltham 54, Mass. *Division of Standard Thomson Corporation.* Sales offices: New York, Detroit, Chicago, Los Angeles, Waltham, Mass. 7.4.25

▲ For more details circle NED-361 L5 on enclosed inquiry slip ▲

Industrial HEAVY DUTY JIB CRANES

Precision engineered and built for smooth efficient operation



Industrial PBM self-supported Jib Cranes are of all welded steel construction, rotate 360 degrees and have capacities up to 12,000 lbs. The rotating steel head revolves on 4 rollers and 9 precision ball bearings resulting in extremely smooth operation — unsurpassed by any other crane of its type. The high standard of workmanship and material, coupled with reliable performance make Industrial Jib Cranes your best buy.

Industrial manufactures 6 other types of Jibs and many models of Overhead Traveling Cranes to cover every need. Consult with Industrial for cranes to solve your material handling problems.

Write for Catalog

INDUSTRIAL CRANE & HOIST CORPORATION
2527 SOUTH PAULINA STREET CHICAGO 8, ILLINOIS
Overhead Cranes • Jib Cranes • Monorail Systems
Crane Runways
Representatives in Principal Cities

▲ For more details circle NED-362 L5 on enclosed inquiry slip ▲

NONSLIP SURFACE THAT GOES ON LIKE PAINT

Tread-sure, an abrasive-filled plastic brushcoating, produces an antiskid surface on wood, concrete or steel. Resists gasoline, alcohol, oil, grease and many types of acids. Provides nonslip safety footing on walkways or stairs whether the surface is wet, dry or oily, either indoors or outdoors. Available in Battleship Gray, Red, Green and Yellow. For full information, write: Dept. H15-1168.

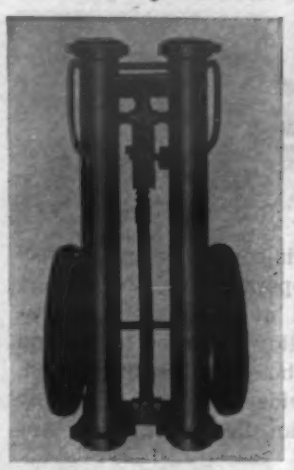
Subsidiary of Sun Chemical Corporation

A. C. Horn Co., Inc.
Long Island City 1, New York

DIVISIONS OF SUN CHEMICAL CORPORATION
HORN • HUDSON • WILLEY (paints, maintenance and construction materials, industrial coatings) • WARWICK (textile and industrial chemicals) • WARWICK WAX (refiners of specialty waxes) • RUTHERFORD (lithographic equipment) • SUN SUPPLY (lithographic supplies) • GENERAL PRINTING INK (Sigmund Ullman • Fuchs & Lang • Eagle • American • Kelly • Chemical Color & Supply Inks) • MORRILL (news inks) • ELECTRO-TECHNICAL PRODUCTS (coatings and plastics) • PIGMENTS DIVISION (pigments for paints, plastics, printing inks of all kinds)

▲ For more details circle NED-363 L5 on enclosed inquiry slip ▲

MOBILE FILTER
for hydraulic systems and machines



On-the-spot filtration for all hydraulic systems and machines is provided by this Filter Buggy. Mounted on pneumatic or solid rubber tired wheels, Buggy is moved from one machine or location to another by one man. Filter utilizes the power furnished by the machine or system it is servicing, or it can be furnished with integral motor-driven pump. Replaceable resin impregnated cellulose filter has an effective filtering area of 13,944 sq in. and has an initial particle selection of 10 microns. Filtering time is governed by capacity of the machine pump and amount of oil in the reservoir. Hoses have quick-disconnect couplings. Made by **Schroeder Brothers**, Dept. ND, 3116 Penn Ave., Pittsburgh 1, Pa.

▲ For more details circle NED-364 L5 on enclosed inquiry slip ▲

DRY BATTERY
wafer-thin model has high power

Smaller than a fingertip, yet a third more powerful than conventional dry cells, this dry battery is sealed in an airtight Pliofilm envelope. Cell consists of a sandwich of artificial manganese dioxide mix between tiny disks of flat zinc and carbon electrodes. Connections between cells are made by silver wax placed on positive and negative sides. Connection in series is by stacking the cells in a column. A 2-in. battery made from 13 cells in a single column develops 22½ v. The U200 battery provides over 300 v in less than 20 cu in. Cell stacks are compressed into a leakproof tube of drawn aluminum for use in recording devices, geiger counters and transistor circuit electronic instruments. Made by **Burgess Battery Co.**, Dept. RL-1, Freeport, Ill.

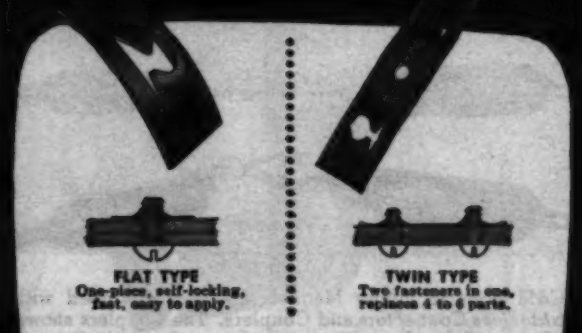
▲ For more details circle NED-365 L5 on enclosed inquiry slip ▲

Ceramic Permanent Magnets

Indiana Steel Products Co.—Characteristics, design and applications of Indox I lightweight, nonmetallic ceramic permanent magnets are described in 4-page catalog No. 15. Magnets have high coercive force suitable for use in indicating gages, magnetic couplings, magnetic filters, special instrumentation and miscellaneous holding applications.

▲ For more details circle NED-366 L5 on enclosed inquiry slip ▲

SAVE IMPORTANT ASSEMBLY DOLLARS with Tinnerman *Speed Nuts*



Any product can be assembled faster, easier, better with Tinnerman SPEED NUT brand fasteners. Here's why. SPEED NUTS are one-piece, self-locking spring steel fasteners. They eliminate lock washers, spanner washers, reduce parts handling and provide lightning-fast, vibration-proof attachments. Over 8,000 different shapes and sizes are available to help you cut assembly costs. Write for free descriptive literature.

TINNERMAN PRODUCTS, INC.
BOX 6688, DEPT. 12, CLEVELAND 1, OHIO

▲ For more details circle NED-367 L5 on enclosed inquiry slip ▲

SKINNER-SEAL SERVICE SADDLE

For making pipe connections. Manufactured in an astonishing range of size combinations for steel or cast iron pipe. Made of malleable iron.

Write for special bulletin

M. B. SKINNER CO., South Bend, Ind.

▲ For more details circle NED-368 L5 on enclosed inquiry slip ▲

NATIONAL ELECTRIC XDUCT CONDUITS!

They're new on the inside ...new on the outside!

FISHING IS EASY WITH
XDUCT CONDUIT
Proved best by actual fish test!

Here's what they mean to you:

1. **EASY FISHING**—XDUCT'S new aluminum enamel inside coating (patent applied for) provides lubrication as friction builds up between conduit wall and wire.
2. **SUPERIOR CORROSION RESISTANCE**—National Electric's revolutionary new patented electro-galvanizing process deposits pure zinc *uniformly* over entire outside surface, *including the threads.*
3. **THREAD PROTECTION**—Sharp, clean threads of XDUCT rigid steel conduit are machined *before* galvanizing . . . assure complete protection from end to end.
4. **SUPERIOR BENDING**—High ductile steel used to assure easy bending.
5. **DESIRABLE COLOR**—Silvery color is highly acceptable for installation in exposed locations. *Write or call for complete details.*

National Electric Products 50™
PITTSBURGH, PA.
3 Plants • 10 Warehouses • 36 Sales Offices

▲ For more details circle NED-369 L5 on enclosed inquiry slip ▲

NEW! Geared flexible couplings with finished bores FROM STOCK

No wait for reboring when you select Link-Belt popular-sized finished-bore geared flexible couplings. They're available right off the shelf. Components come disassembled, ready for quick and easy installation. Available from stock in bore sizes to 2¾ inches. Other sizes up to 6 inches. Pick-up your needs at a nearby Link-Belt factory branch store or authorized stock carrying distributor, or write for Folder 2375.

LINK-BELT COMPANY: Executive Offices, 307 N. Michigan Ave., Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office: New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville, N.S.W.; South Africa, Springs. Representatives Throughout the World. 13,948

LINK-BELT
GEARED FLEXIBLE COUPLINGS

▲ For more details circle NED-370 L5 on enclosed inquiry slip ▲

bellows-locke DRILL UNIT

☆ combines hydraulic feed
☆ air powered rapid advance
☆ electrically driven spindle

Full 3" stroke—any part usable. Takes up to 5/16" drills. Either pulley driven or direct motor drive models available. Compact, streamlined, light-weight. Can be mounted at any angle in any plane. Any number of units can be easily synchronized and interlocked for accurately timed sequence operation.

Write for BULLETIN BL-5R

Address Dept. NED 1155

The Bellows Co. 1156-A
AKRON 9, OHIO
In Canada: Bellows Pneumatic Devices of Canada, Ltd., Toronto, Ont.

▲ For more details circle NED-371 L5 on enclosed inquiry slip ▲

Year in, year out DEPENDABILITY

—with

BLACKMER rotary pumps

Cut maintenance costs and delays due to pump failures through these outstanding features:

- self-adjusting for wear vane construction
- replaceable vanes and liner
- self-priming with high suction lift
- wide range of applications

liquid materials handling ®
BLACKMER

Industrial, Hand and Truck Pumps, Strainers, Pressure Control Valves
BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICH.
DIVISION SALES OFFICES — NEW YORK • ATLANTA • CHICAGO
GRAND RAPIDS • DALLAS • WASHINGTON • SAN FRANCISCO
See Yellow pages for your local sales representative

▲ For more details circle NED-372 L5 on enclosed inquiry slip ▲

ELECTRONIC CARD SORTER handles up to 48,000 punched cards hourly, with flexible selectivity

Special punched card coupons and stubs as well as 90-column alphabetic, numeric, blank and code punched cards can be handled at a rate of 48,000 hourly by the Remington Rand Electronic Sorter. Pushbuttons assure instant selection of column to be sensed and also permit variable sequence, sorting 0 to 9, A to M and N to Z cards in any order.

Procedure flexibility provides freedom in segregating and merging up to 13 groups of alphabetic and/or numeric characters selected in a single pass of cards and affords blank selection for merging unpunched cards with zero-punched cards, segregating unpunched cards in a separate receiver. Sorting on one or more control positions without regard for punching in other positions of the same column, sorting by special codes or sorting cards with bottom edge leading, are handled by individual or transposed position sensing. Simple rewiring of correction panel gives control of sensing and receiving. Made by **Sperry Rand Corp., Remington Rand Div., Dept. NED, 315 Fourth Ave., New York 10, N. Y.**

▲ For more details circle NED-373 L5 on enclosed inquiry slip ▲

ADJUSTABLE DOCKBOARD automatically adjusts to truck beds

Backing of truck supplies the power required by the Hi-Lo dockboard to automatically adjust it to the truck carrier bed. It compensates automatically for

lateral as well as vertical truck spring deflection. Dockboard lowers into the truck or trailer as the carrier reaches the dock, then rises mechanically when it leaves. A load run onto the dockboard when it is not being used positions it at dock level for cross traffic. Recessed models individually engineered to specific requirements and packaged units are available. Both are offered in several sizes with 10,000 and 20,000-lb capacities. Made by **Kelley Co., Dept. NE-304, 316 E. Silver Spring Dr., Milwaukee 17, Wis.**

▲ For more details circle NED-374 L5 on enclosed inquiry slip ▲

FREE BULLETIN tells you why it pays to do business with Brainard. Write today for bulletin or call your near-by Brainard representative for on-the-job demonstration.

Brainard
STEEL DIVISION
SHARON STEEL CORPORATION

BRAINARD STEEL DIVISION
of the Sharon Steel Corporation
DEPT. T-11
GRISWOLD STREET, WARREN, OHIO

▲ For more details circle NED-375 L5 on enclosed inquiry slip ▲

Safety Products Division

Yes It's a Safety Goggle!
NEW AO† F9500 with *"ULTRASCOPIC VISION"*

Newly designed and engineered "from the ground up" . . . greater field of vision . . . greater wearer acceptability . . . many new features . . . made to last longer for true economy. Be sure to see this plastic goggle and *also* new companion metal goggle F5100. Ask your AO Safety Products Representative.

American Optical
SAFETY PRODUCTS DIVISION

†T.M. Reg. by American Optical Co.
Always insist on Trademarked Lenses and Frames

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

▲ For more details circle NED-376 L5 on enclosed inquiry slip ▲

STOP

. . . WASTING VALUABLE PRODUCTION TIME—

Locate grounds on normally ungrounded electrical circuits with The BRUNT FAULTFINDER

LOOK

. . . at what users* say:

SAVES TIME . . .

"We are pleased with our Brunt Faultfinder. It has been used successfully to locate grounds which would normally require overtime for detection."

PREVENTS SHUTDOWN . . .

"(The Faultfinder) has been very useful in finding grounds and is a timesaver. It has enabled us to trace grounds without shutting the equipment down."

ELIMINATES TRIAL AND ERROR . . .

"We had a ground in one of our main substations. We were able to locate (it) very accurately and quickly . . . led us through a power distribution panel, through a concrete slab and to a conduit fitting which contained the ground."

*Names on request.

LISTEN

. . . for the signal

and follow it to the fault. The Brunt Faultfinder can be operated by one man. There are no sensitive meters needing constant adjustment. Can be used in dark or noisy locations. Traces overhead lines without climbing.

Put the BRUNT FAULTFINDER to work for you!
ORDER TODAY!
Delivery from stock, express prepaid

Standard Model (one voltage** AC or DC) #133 . . . . . $400.00
Portable Model (one voltage** AC or DC) #123 . . . . . $450.00
Universal Model (110V to 600V AC or DC) #54 . . . . . $500.00
**Specify exact power voltage desired.

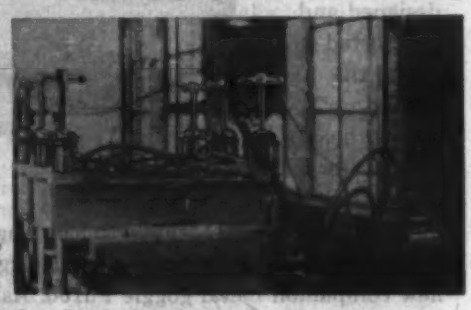
PARR MANUFACTURING CORP.
40 Austin Street Newark 5, N. J.

▲ For more details circle NED-377 L5 on enclosed inquiry slip ▲

OTC 17½ TON HYDRAULIC RAMS Save $7000 ON PRESSING JOB

*Case history of a $7000 saving:**

Recently this manufacturer invested less than $1000 in six OTC 17½ Ton Hydraulic Rams and an OTC Electric Pump, added a touch of mechanical resourcefulness, and handled a production pressing application otherwise requiring a special press costing $8000. This $7000 saving is only one example of the thousands of money-saving, production-increasing jobs being done in industry every day by OTC Hydraulic Rams in capacities ranging from 17½ to 100 tons.



*Company name in our files withheld by request.

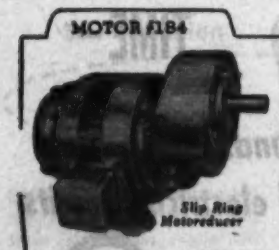
Each Ram on the plastic forming and curing press exerts about 10 tons pressure—intermittently speed nuts are adjusted and pressure added to maintain pressure lost through condensing of material as it shapes. Write for OTC Hydraulic Bulletin HY-55. It may have the answer to your pulling and maintenance problems with savings similar to those above. OWATONNA TOOL COMPANY, 436 Cedar Street, Owatonna, Minnesota.

▲ For more details circle NED-378 L5 on enclosed inquiry slip ▲

SAVE on original development costs by using REULAND ELECTRIC'S SPECIAL-MOTOR "LIBRARY"

Over 900 Different Electric Motors

MOTOR #184



Slip Ring Motoreducer

HIGH STARTING TORQUE ON LOW CURRENT – plus variable speed reduction, are features of this Slip Ring Gear Reducer motor. Aids in getting heavy loads up to full speed through step by step starting.

MOTOR #107

Fluid-Shaft Motoreducer with Brake

FLUID-CUSHIONED ACCELERATION, SLOW SPEED, SPLIT-SECOND BRAKING – Internal fluid coupling provides smooth starts, prevents "jamming" of equipment. New "doughnut" magnetic brake can be mounted before or after coupling – or both.

MOTOR #841

Hydraulic Pump Mount Motor

MOUNT PUMP DIRECTLY TO MOTOR'S END BELL – Eliminates usual need for separate pump-mount platform. Insures absolutely perfect alignment with pump shaft. Available with flange on one or both ends. For all standard pump makes.

MOTOR #912

Right-Angle Worm Motoreducer

COMPACT SPEED REDUCER – This right-angle, worm type gear reducer provides lowest cost speed reduction. Mounts on floor, overhead or side. Extremely versatile, multi-shaft load hook-up. Fits tightest quarters.

REULAND'S "XPANDABLE" DESIGN MEANS ALMOST UNLIMITED ADAPTABILITY...

Don't pay for special motor development until you first check the Reuland SPECIAL-MOTOR LIBRARY. New XPANDABLE DESIGN idea has produced literally hundreds of unique power packages.

Reuland also produces a complete line of standard electric motors. Free engineering literature will be sent upon request.

REULAND ELECTRIC COMPANY
Distributors In All Principal Cities
Western Division: Alhambra 11, California
Eastern Division: Howell 11, Michigan

▲ For more details circle NED-379 L5 on enclosed inquiry slip ▲

SLIDING-HEAD FLOOR DRILLS
21-in. box or round column units drill 1½-in. holes in cast iron

Available with a box or round column, Cincinnati 21-in. sliding-head floor drills are rated at 1½ in. in cast iron with a 2 or 3-hp, 1800 or 1500-rpm motor. Machines are shipped complete with motor and controls and are ready to operate as soon as power leads are connected to enclosed, built-in electrical panel. Transformer is supplied with all machines operating on 220 v or over to reduce voltage at pushbutton station to 110 v.

Simple selector is used to obtain any of four rates of feed which are engaged through positive-jaw clutch. Entire power feed mechanism is built-in and housed in the head. A No. 4 Morse taper spindle is mounted in tapered roller and ball bearings which take radial and thrust loads. A No. 3 spindle is optional. Made by **Cincinnati Lathe & Tool Co.**, 3200 Disney St., Cincinnati 9, O.

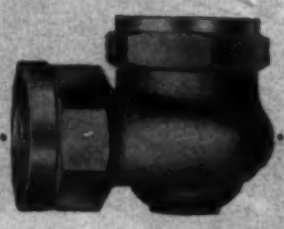
▲ For more details circle NED-380 L5 on enclosed inquiry slip ▲

TOOL & SNAGGING GRINDER
features built-in dust collector

Dust collector built into the Kalamazoo No-Dust tool and snagging grinder is serviced easily from the front of the machine. This improvement makes it possible to place the grinder against a wall. Sizes with 1, 2 and 3-hp motor use 10, 12 and 14-in. diameter grinding wheels. The dust collector unit traps dust and dirt from light tool or snagging operations or from intermittent grinding on heavier operations. Same basic machine is available without the dust collector which can be added at a later date. Made by **Hammond Machinery Builders, Inc.**, 1623 Douglas Ave., Kalamazoo, Mich.

▲ For more details circle NED-381 L5 on enclosed inquiry slip ▲

SPRAYING SYSTEMS CO.



for lower cost

and better performance

SPRAY NOZZLES

Modern design. Precision machining. All materials. Thousands of standard industrial spray nozzle types and sizes to choose from. Years of proved experience at your service.

write for this great new catalog today

Ask for our new 48 page Catalog No. 24 . . . the most comprehensive spray nozzle catalog ever produced. Yours for the asking.

SPRAYING SYSTEMS CO.
3211 Randolph Street • Bellwood, Illinois

▲ For more details circle NED-382 L5 on enclosed inquiry slip ▲

FREE ...

NEW Danly Die Spring Catalog Gives You NEW Flexibility In Die Design!

3 complete lines ... OVER 200 SPRINGS TO CHOOSE FROM!

Die spring selection will be faster, more exact if you've got this new Danly catalog handy. It contains all the facts you need, plus dimensions, spring rates and pressure deflection data . . . on the new, expanded Danly Die Spring line. There's no question about performance either because Danly die springs provide longer life and more predictable accuracy.

Write today for your free copy . . .

DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie • Chicago 50, Illinois

▲ For more details circle NED-383 L5 on enclosed inquiry slip ▲

Free 12-PAGE BOOKLET

helps you choose the Right HOOD Glove for Each Job!

This useful Guide shows the comparative wear and chemical resistance of Hood Neoprene, Rubber and Plastic-Coated Gloves. It illustrates and fully describes the complete line of Hood Industrial Gloves . . . the choice of industry for every job.

Write for your copy today

HOOD RUBBER CO.
A division of the B. F. Goodrich Company
Watertown, Mass.

▲ For more details circle NED-384 L5 on enclosed inquiry slip ▲

Faultless ENGINEERED TRUCK CASTERS CUT HANDLING COSTS

A fast flowing production line on Faultless Casters produces *more* of *anything* with less manpower and effort. It's your *practical solution* to cutting handling costs.

200 Series Double Ball Bearing Swivel Plate Caster with Plaskite Wheel

H300-V Series Swivel Plate Caster with Grooved Wheel

Regardless of what you handle or make, there is a Faultless Caster especially suited to your job. Wheel diameters range from 2" to 12"—load cap. from 65 lbs. to 9 tons ea.

FAULTLESS CASTER CORP.
Dept. NE-6, Evansville 7, Indiana
Branches in Principal Cities—Canada: Faultless, Stratford, Ont.

▲ For more details circle NED-385 L5 on enclosed inquiry slip ▲

clean air by the roll!

Roll-o-MATIC

Filter introduces once-a-year maintenance

ROLL-O-MATIC is the new renewable air filter. Its filter curtain — a "blanket" of bonded glass fibers 5 ft. wide by 65 ft. long—compresses into a 13" diameter roll. Mounted at top of unit, media moves automatically down face of filter and is re-rolled at bottom.

Under normal operating conditions, one roll of this low cost media represents a full year's supply for a ROLL-O-MATIC section up to 11 ft. high (18,000 cfm). For complete information, call your local AAF representative or write for Bulletin 248.

American Air Filter COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

▲ For more details circle NED-386 L5 on enclosed inquiry slip ▲

EASIER LIQUID LEVEL READINGS WITH IMPROVED WIDE VISION REMOTE INDICATOR

A new-type face on the Yarway Remote Liquid Level Indicator now permits side as well as head-on dial readings.

This improved visibility makes it possible to check boiler water levels from most any position in the control room, or wherever the Yarway Remote Indicator may be installed.

The Yarway Indicator is a manometric type with automatic temperature compensation. Level readings are instant and accurate because the indicator is operated by the boiler water itself. Indicating mechanism is never under pressure. There are no stuffing boxes.

Over 8,000 Yarway Remote Liquid Level Indicators are successfully operating throughout industry—primarily for indicating boiler water levels, but also for many other liquid level applications, and for superheater pressure differential indicators aboard ship.

Write for free Yarway Indicator Bulletin WG-1823.

YARNALL-WARING COMPANY
131 Mermaid Ave., Philadelphia 18, Pa.

YARWAY remote liquid level indicators

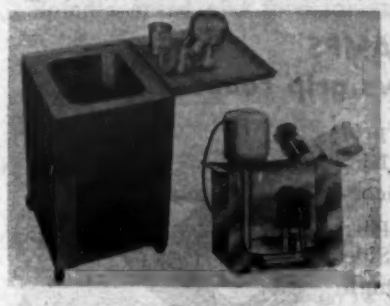
▲ For more details circle NED-387 L5 on enclosed inquiry slip ▲

ROLLER RATCHET WRENCH
in nine sizes from 3/8 to 1 in.

Assembly and service operations are typical uses for which the Cam-Loc one-piece, open end roller ratchet wrench is well suited. Wrench will fit over badly burred, heavily painted, or undercoated nuts by virtue of spring expansion allowed behind Swiss precision steel rollers. Tool will not mar chrome fittings, and roller principle offers tight grip and equalized torque. Nine sizes ranging from 3/8 to 1 in. are available. Made by TKF Co., Fisher Bldg., Detroit 2, Mich.

▲ For more details circle NED-388 L5 on enclosed inquiry slip ▲

LAB GLASSWARE WASHER
four power brushes scrub to clean



Beakers, flasks, test tubes, cylinders and practically all laboratory glassware is readily cleaned by this caster-mounted mobile scrubber. Self-contained unit has a stainless steel sink measuring 16 x 14 x 14 in. Four vertical spiral nylon brushes, available in nine sizes, are submerged during operation. Special cleaner is forced into glassware by brushes and leaves it sparkling clean. A portable unit for use in any sink is also available. Announced by Labline, Inc., Dept. NE, 3070 W. Grand Ave., Chicago 22, Ill.

▲ For more details circle NED-389 L5 on enclosed inquiry slip ▲

HAND TACHOMETER
in seven ranges for 50-10,000 rpm

Continuous indication of speed from 50 to 10,000 rpm, or 25 to 5000 fpm is given by this hand tachometer available in seven speed ranges. It indicates either direction of rotation without adjustment. Instrument is unaffected by temperature, moisture, electrical currents or magnetic conditions. Stop button makes it possible to retain dial reading. Made by Jones Motrola Corp., Dept. 100, 432 Fairfield Ave., Stamford, Conn.

▲ For more details circle NED-390 L5 on enclosed inquiry slip ▲

IRD cuts balancing costs on Seagrave fire engines

Look—IRD Vibration Analyzer (for portable or stationary use) trims production dynamic balancing costs for Seagrave Corporation, leading fire engine builder—like this: 1—On 9350-rpm high pressure pump impellers—from $3 to 14.6 cents each. 2—On engine flywheels—from 25 to 22.4 cents each. 3—On 500-gpm pump impellers—from 26.6 to 19 cents each. Analyzers are portable for checking and balancing parts in completed assembly, and for troubleshooting complex assemblies.

Write for Bulletin G-1—the full story.

International Research & Development Corp.
Box 1707, Columbus 16, Ohio

IRD *balance—the final dimension of precision*

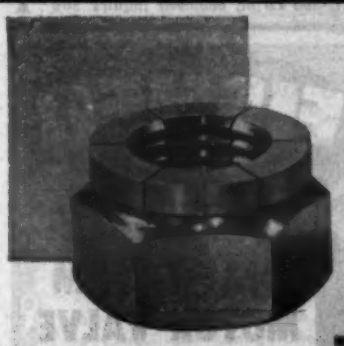
▲ For more details circle NED-391 L5 on enclosed inquiry slip ▲

Schrader' rotating pressure joints make the job easy

This compact, airtight connection transmits line pressure from a rotating member to a fixed unit, and makes air installations simple where rotating action on one side is possible while the line connections on the other side are in a fixed position. Ball bearing construction assures a minimum of rotating friction. May be used for many gases and liquids as well as compressed air. For complete information, write for free Schrader Catalog.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Avenue, Dept. CC-11, Brooklyn 38, N. Y.

▲ For more details circle NED-392 L5 on enclosed inquiry slip ▲



specify standard FLEXLOC SELF-LOCKING NUTS

FLEXLOC DESIGN FEATURES
- one-piece, all-metal construction
- resilient locking segments
- controlled locking torques
- lock and stop nut in one
- every thread carries its full share of load

DO YOU KNOW? Standard FLEXLOCS improve the finish of rough bolts. They smooth off rough threads. And the locking threads on all-metal FLEXLOCS are not chewed up when used on rough bolts. FLEXLOCS are stocked by authorized industrial distributors in a full range of sizes from #4 to 2". Write for Bulletin 866. STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

FLEXLOC LOCKNUT DIVISION **SPS** JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-393 L5 on enclosed inquiry slip ▲

NoDrip ...STOPS CONDENSATION DRIP

NoDRIP PREVENTS RUST —ANYONE CAN APPLY

NoDrip plastic coating is easily applied to tanks, containers, suction lines, vats, pipes, walls, ceilings, etc. NoDrip adheres to metal, concrete, brick, plaster. It forms a seamless 100% moisture-proof covering that is effective as soon as dry. Acid, alkali and brine resistant.

FREE... Interesting 32-page Handbook shows what NoDrip is and what it does. SEND COUPON TODAY

SEND NoDRIP HANDBOOK
NAME _____
ADDRESS _____
CITY _____ STATE _____

J. W. MORTELL CO. • 526-4 BURCH ST. • KANKAKEE, ILL.
TECHNICAL COATINGS SINCE 1895

▲ For more details circle NED-394 L5 on enclosed inquiry slip ▲

Now, a push-type internal tube cutter that delivers top efficiency with your own air or electric motor. It's ideal for maintenance that involves replacing non-ferrous tubes ⅝" to 2" O.D. Contact your nearest Airetool representative right away. He will gladly give you an on-your-job demonstration.

AIRETOOL MANUFACTURING COMPANY
SPRINGFIELD, OHIO

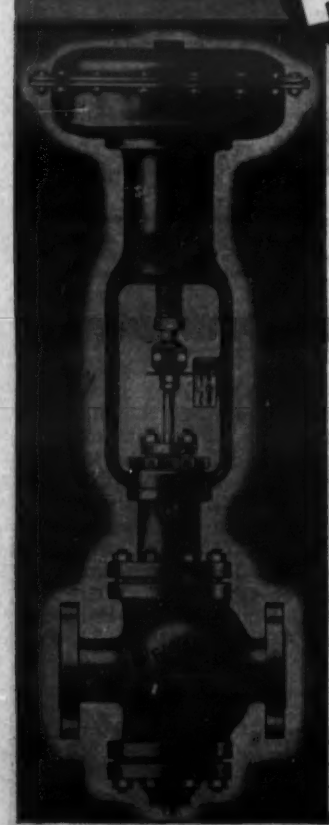
REPRESENTATIVES in principal cities in U.S.A., Canada, Mexico, South America, England, Japan

EUROPEAN PLANT: Airetool Nederland, N.V., Vlaardingen, The Netherlands

BRANCH OFFICES: New York, Philadelphia, Chicago, Tulsa, Houston, Baton Rouge

▲ For more details circle NED-395 L5 on enclosed inquiry slip ▲

FISHER



Improved
DIAPHRAGM MOTOR VALVE OPERATOR

Bolted-clamp type stem connection. This allows large latitude in valve stroke adjustment. It can be disconnected in the field without damage to the stem. It will not shake loose from vibration or rotational inner valve forces.

Rugged body to yoke connection with hammer lug nut. • Deep drawn steel diaphragm casings. • Specially designed molded diaphragms. • Bolted gland stuffing box with Teflon packing. • Improved clear view travel indicator. • Spring ranges: 3 to 15 psi; 3 to 27 psi; 6 to 30 psi.

FISHER GOVERNOR COMPANY
Marshalltown, Iowa

▲ For more details circle NED-396 L5 on enclosed inquiry slip ▲

For faster, lower cost assembly...

You'll get big savings on assembly operations with Stackbin Assembly Bins. Work station layouts are more efficient. Parts are kept close to worker's hands . . . reaching and fumbling is eliminated. Shallow angle lip is just right for finger tip control. Operators can select with both hands. Sloping bottom feeds parts continually toward the front. With adjustable hoppers, there are always plenty of parts when and where they're needed.

Stacking feature permits rigid setups, allows flexibility when layout is changed.

Stackbin Assembly Bins feature all-welded construction with smooth, folded edges. 6 sizes with straight or tapered sides. Also available with rear-loading feature.

WRITE TODAY for full information on the Stackbin System

Stackbin Corporation, 1081 Main Street, Pawtucket, R. I.

Mfgd. and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

STACKBIN SYSTEM
"Stacked and Still Accessible"

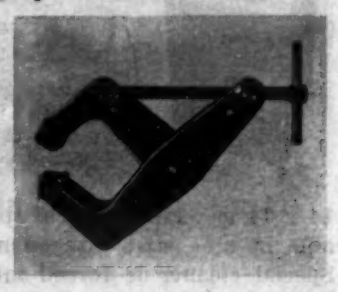
▲ For more details circle NED-397 L5 on enclosed inquiry slip ▲

STEEL BUILDINGS utilize tapered rigid frames

Line of standard prefabricated steel buildings is available in variety of types and sizes for industrial use. They incorporate tapered rigid frames and a superimposed fastening system which speeds application of covering to the framework. Embossed holes in the purlins and girts provide a locating point for connecting roof and wall sheets. Deep-formed wall and roof sheets have 1-in. deep ribs spaced on 8-in. centers. Base shoe connection allows the frame to be assembled on the ground. Made by **Steelcraft Mfg. Co.,** Dept. NED, 9017 Blue Ash Rd., Rossmoyne, O.

▲ For more details circle NED-398 L5 on enclosed inquiry slip ▲

TWIST-FREE CLAMPS grooved jaws grip rounds



Designed for small precision work, the 1-in. Kant-Twist clamp incorporates features of parallel and C-clamps. Side plates are made of high tensile steel. Jaws are grooved for gripping rounds and rotate in one plane. Made by **Saxton Mfg. Co.,** Dept. AB, 1517 N. Potrero, El Monte, Calif.

▲ For more details circle NED-399 L5 on enclosed inquiry slip ▲

HEIGHT GAGE is read like a micrometer

Used for laying out and inspecting metal dies, this improved Micro-Height gage is read just like a micrometer. Basic gage has 2-in. direct reading in thousandths which can be increased to 3 in. by reversing scriber. By adding a 3-in. riser to the base, as shown, gage capacity is extended to 6 in. To determine distances between heights or holes, a dial indicator is used in place of steel scriber. Satin chrome finish makes gage easy to read. Made by **Greist Mfg. Co.,** 446 Blake St., New Haven, Conn.

▲ For more details circle NED-400 L5 on enclosed inquiry slip ▲

STRONG...FLEXIBLE...
yet only 1/32" diameter!

MINIATURE
SPIROL PIN

Strong — with exceptional vibration and shock resistance, even in diameters as small as 1/32". The only flexible pin made in miniature diameters.

Self-locking flexible coils hold the pin firmly in the hole. Spiral coils exert even radial tension; no weak "hinge" lines. No reaming or tapping. Diameters from 1/32".

FREE! Send for sample Spirol pins and data folder.

C. E. M. COMPANY • 96 SCHOOL ST. • DANIELSON, CONN.

▲ For more details circle NED-401 L5 on enclosed inquiry slip ▲

POLYPENCO® NYLON SHAPES

Quality Nylon Parts at Lower Cost...
Fabricate From POLYPENCO Shapes

- Get better performance with superior quality and tolerances.
- POLYPENCO Nylon Shapes give you uniform density and maximum dimensional stability.
- Machine POLYPENCO Shapes—rod, bar, tubular bar, strip and slab—rapidly, economically, on standard metalworking tools.
- Save cost of dies, get greater design flexibility.
- Immediate warehouse delivery.

WRITE FOR LATEST DATA

THE POLYMER CORPORATION of Penna. • Reading, Pa.
In Canada: Polypenco, Inc., 2052 St. Catherine W., Montreal, P.Q.

POLYPENCO nylon, teflon* and other non-metallics

*DU PONT TRADEMARK

▲ For more details circle NED-402 L5 on enclosed inquiry slip ▲

you'll want this idea starter

● If you are looking for new ways and means to improve your product, **and save money too,** here's an ideal source guaranteed to spark your imagination and give you a wealth of hints, tips, and suggestions.

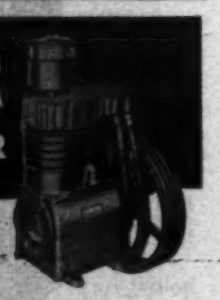
This 26-page Star catalog contains complete descriptive and engineering data on the full line of Star Electrical Procelain products . . . Commercial White Porcelain, Nu-Blac, Thermolain, Vitrolain, Humidolain, Lavolain, and 5606 Refractory. A big selection chart, complete with mechanical and electrical properties, makes the job of selecting the right Star material for your product a cinch. And that's not all! There's a lot more information as well . . . data that you'll find of constant value. Like a free copy? Send for one **today** . . . we'll do the rest.

Star Porcelain Company, 50 Muirhead Ave., Trenton 9, New Jersey.

STAR porcelain company

▲ For more details circle NED-403 L5 on enclosed inquiry slip ▲

MORE FREE AIR PER HORSEPOWER



Kellogg-American

AIR COMPRESSOR PUMPS, ½ TO 20 HP
Engineered and precision built to give more *free air* (actual air delivered) per hp, Kellogg-American compressors assure maximum air delivery, efficiency and service life. Single or two stage, 1, 2 or 4-cylinder units available for pressures up to 200 psi; displacements to 105.9 c. f. m.

COMPLETE AIR COMPRESSORS, ½ TO 20 HP
Portable or stationary; skid, remote tank or tank mounted; electric motor or gas-engine-driven models permit you to select the most efficient, economical compressor for every job. Write Dept. ND-1 for Bulletin K-307.

FREE — New slip-stick selector to help determine the right Kellogg-American air compressors for your needs. Send for yours on company letterhead today.

KELLOGG DIVISION
ROCHESTER 9, N. Y.

AMERICAN Brake Shoe COMPANY

Kellogg-American

▲ For more details circle NED-404 L5 on enclosed inquiry slip ▲

STITCH METALS

up to 5/16" thick

- Bostitch Metal Stitching cuts assembly time up to 90%.
- Stitcher punches its own hole, inserts staple and clinches it—all in ½ second.
- No holes to prepare. No pre-cleaning.
- Needs only a single, semi-skilled operator.
- Find out about the different types of Bostitch metal stitchers—and stitches.

Fasten it better and faster with

BOSTITCH
STAPLERS AND STAPLES

Write for Bulletin
BOSTITCH, 691 Mechanic St.
Westerly, R. I.

For more details circle NED-405 L5 on enclosed inquiry slip

4 Cost-Cutting Operations

WITH ONE AJAX SALT BATH

...that saved $37,000 the first 8 months!

CARBURIZING

1 Work is heated at 1850° for 30 minutes, oil quenched and washed. A consistent, scale-free 0.005" case with surface hardness of R_{15N} 75/80 is obtained.

SIMULTANEOUS BRAZING AND CARBURIZING

2 Simultaneous brass brazing and carburizing cut costs from $79 to $13.11 per 1,000 parts, eliminated 3 handling operations, saved time. Case depth is 0.005"-0.007" with R_{15N} 80/85 surface hardness.

BRAZING

3 Brass brazing of this assembly reduced costs from $14.20 to $9.10 per thousand—without considering the reduction in rejects from 25% to less than 1%.

HARDENING

4 SAE-1050 and 1065 cold rolled parts are hardened in the same Ajax bath used for the 3 other operations. Hardened parts will bend 45° before fracturing.

During its first 8 months, this Ajax Electric Salt Bath Furnace saved $37,000 in the plant of G. H. Leland, Inc., Dayton, Ohio . . . after deducting all operating costs and 20% annual equipment depreciation!

The Salt Bath handles all four heat treating operations described here . . . and the Leland model shop uses it for odd jobs as well!

Let Ajax demonstrate how you might make similar heat treating savings. You get actual proof on your own work samples in the Ajax Metallurgical Service Laboratories. No cost or obligation. Write for details.

AJAX ELECTRIC COMPANY
Philadelphia 23, Pa.

AJAX
HULTGREN ®

electric SALT BATH furnaces

Associated Companies: Ajax Electric Furnace Corp., Ajax Electrothermic Corp., Ajax Engineering Corp.

For more details circle NED-406 L5 on enclosed inquiry slip

RADIAL DRILLS

13 and 15-in. column types have 36 spindle speeds

Pushing a button will raise or lower the arm; traverse the head to left or right; clamp or unclamp the arm, head or column; and shift the gears on this line of Hydra-Power radial drills. Built with 13 and 15-in. columns and with pushbuttons replacing levers and handwheels, the machines are hydraulically actuated. Pushbuttons are located in a single panel at the operator's right.

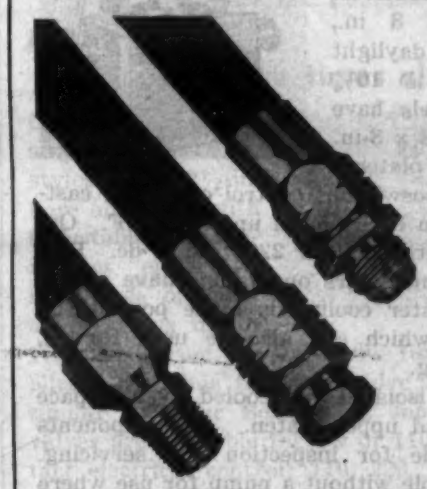
Spindle speed and feed for subsequent operations can be selected while the current operation is being performed. Large diameter quill is mounted on precision bearings as close to work as possible. Also featured are an automatic tool ejector, built-in electric light, 36 spindle speeds in any of four ranges and 18 feeds including 8, 11½, 14, 18 and 27 thread leads. Safety device prevents raising or lowering drill arm while it is clamped. Made by **Morris Machine Tool Co.**, 955 Harriet St., Cincinnati 3, O.

For more details circle NED-407 L5 on enclosed inquiry slip

HOSE & COUPLINGS

for high pressure applications

Single wire braid rubber-covered, double wire braid rubber-covered and single wire braid cotton-covered hoses, all conforming to SAE and JIC standards, are offered in Hi-Duty line for hydraulic and heavy duty applications. Wide range of reusable hose couplings and adapters is available for each type. Each coupling is marked with size and type of hose and thread size of fitting and hose bears size and type markings. Both hoses and fittings are suitable for use with hydraulic fluids, gasoline, hot oil, grease, liquefied petroleum gas, fuel oils, air and water. Sizes range from 3/16 to 1 13/16 in. Made by **Imperial Brass Mfg. Co.**, 510 S. Racine Ave., Chicago 7, Ill.



For more details circle NED-408 L5 on enclosed inquiry slip

ECON® dual-element fuses

ELIMINATE NEEDLESS BLOWS

For instance . . . A welding machine company reports that since installing Econ Dual-Element Fuses, all operations have run without interruption. Needless blows, and burning, have been eliminated. In addition, the firm has saved the cost of installing expensive breaker equipment. This may offer a suggestion for some of your motor and branch circuits.

ECON FUSES ARE STOCKED BY LEADING ELECTRICAL WHOLESALERS in knife and ferrule types, 0 to 600 Amp., 250 to 600 V. Underwriters' Laboratories approved. If your wholesaler is all out of ECON Catalog S-60, write us for your copy and also ask for Complete Line Fuse Folder No. 3.

ECONOMY fuses for every purpose

ECONOMY FUSE & MFG. CO., 2717 Greenview, Chicago 14, Ill.

For more details circle NED-409 L5 on enclosed inquiry slip

BIG SAVINGS!

- Cleaning and finishing metals, molds, forgings, plastics, etc.
- Removing burrs, carbon, rust, grime, paint, etc.
- Stenciling letters, designs, trademarks, etc.

Cabinet Type

LEIMAN SANDBLAST

Leiman Sandblasts provide the fast, low-cost, safe, uniform way to perform the operations listed above ...whether mass production or single pieces, large or small. Easily operated by unskilled help. Well-designed, rugged, last for years, priced right.

FEATURES: Continuous vacuum abrasive feed—heavy gauge welded steel cabinet—doors at each end—two arm holes with rubber gloves—two interior lights—foot pedal control—large viewing glass—uses all abrasives.

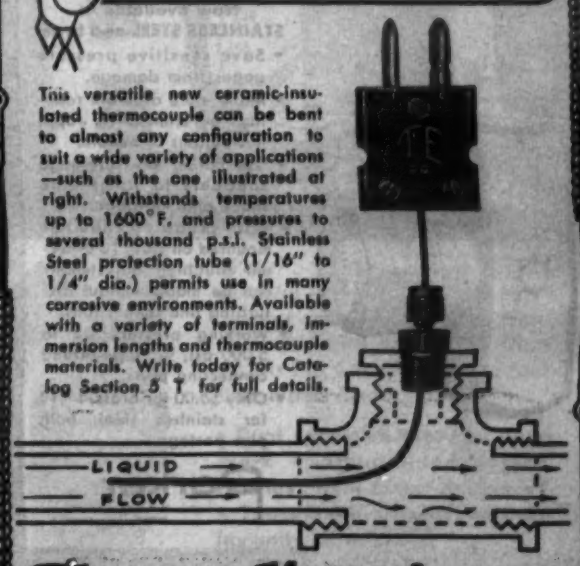
WRITE for folder and prices on this and many other Leiman Sandblasts

LEIMAN BROS., Inc. 139 Christie Street Newark 5, New Jersey

For more details circle NED-410 L5 on enclosed inquiry slip

CAN YOU USE THE NEW T-E "Ceramo" PROTECTED THERMOCOUPLES?

This versatile new ceramic-insulated thermocouple can be bent to almost any configuration to suit a wide variety of applications—such as the one illustrated at right. Withstands temperatures up to 1600°F. and pressures to several thousand p.s.i. Stainless Steel protection tube (1/16" to 1/4" dia.) permits use in many corrosive environments. Available with a variety of terminals, immersion lengths and thermocouple materials. Write today for Catalog Section 5 T for full details.



Thermo Electric Co., Inc.
SADDLE RIVER TOWNSHIP, Rochelle Park P.O., NEW JERSEY
CANADA • THERMO ELECTRIC (Canada) Ltd., BRAMPTON, ONT.

For more details circle NED-411 L5 on enclosed inquiry slip

Harper can save you up to 50% on machined parts like these

If you mill parts like these from bar, Harper cold heading can save you up to 50%. Harper engineers have had wide experience in the design and production of specials from nonferrous, stainless steel and high temperature alloys.

Over 7,000 standard items in stock.

SPECIALISTS IN ALL CORROSION-RESISTANT FASTENINGS

HARPER

The H. M. Harper Company,
8212 Lehigh Avenue,
Morton Grove, Ill.

☐ Please quote on attached blueprint.
☐ Send Catalog 26 on standard fastenings.

Name.....
Company.....
Address.....
City.....Zone.....State.....

For more details circle NED-412 L5 on enclosed inquiry slip

FOR PERFECT BLENDS

SPROUT-WALDRON

HORIZONTAL BATCH MIXERS STYLE B

Mixes small quantities of critical ingredients with a large bulk of basic material... rapidly, intimately. Handles all types of dry, damp, and free-flowing wet materials. Clean. Dustless. Sanitary. Sizes from 1 cu. ft. up to 1700 cu. ft. Your choice of construction materials and types of discharge gates. Can be "adaptioneered" for special needs.

WRITE NOW for full details on this as well as other Sprout-Waldron horizontal and vertical mixers that cover a wide range of styles and sizes.

SPROUT-WALDRON
The Best in Milling Equipment Since 1854
8 LOGAN ST. • MUNCY, PA.
Equipment for SIZE REDUCTION • MIXING & BLENDING • BULK MATERIALS HANDLING • PELLETING & CUBING • PRODUCT CLASSIFICATION

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Use Parker pressure-gage snubbers to prevent damage from surges

Now available in STAINLESS STEEL and brass

- Save sensitive pressure gages from damage.
- Make more accurate readings by eliminating rapid fluctuations of needle.
- Use Parker pressure-gage snubbers to damp line shock and vibration.
- With snubbing chamber mounted on side, 13 different snubbing adjustments can be made without disturbing line connections.
- Working pressure up to 5,000 psi; ¼" pipe-thread connecting ports.
- Only $6.00 for brass; $9.43 for stainless steel; both plus postage.

Parker
Hydraulic and fluid system components

Order From Your Parker Distributor—or Tube and Hose Fittings Division, Section 457, The Parker Appliance Co., 17325 Euclid Ave., Cleveland 12, Ohio.

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For immediate delivery at bargain prices...

SURFACE and LAYOUT PLATES

Now . . . you can save money and get immediate delivery from Lake Shore's large inventory of surface and layout plates. These plates are available in a wide range of dimensions, machined or scraped . . . and they are priced to sell. Write or call us for detailed specifications on these plates and other manufacturing and testing accessories:

LAKE SHORE, Inc.
Lake Shore Engineering Division
IRON MOUNTAIN 6, MICHIGAN • PHONE 2980

Send details and dimensions on your . . .

- ☐ Surface plates ☐ Bench plates ☐ Angle plates
- ☐ Base plates ☐ Lapping tables ☐ Engine jacks
- ☐ Layout plates ☐ Work tables ☐ Stands, legs, leveling blocks

Name_____ Title_____
Company_____
Address_____

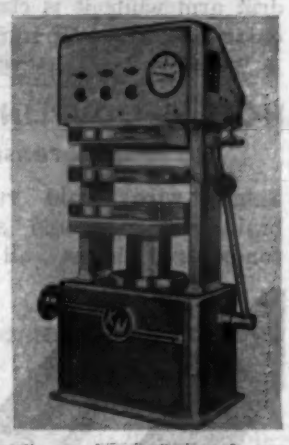
▲ For more details circle NED-416 L5 on enclosed inquiry slip ▲

TEMPERATURE CONTROLLER in ranges up to 0-2500° F

Process temperatures as high as 2500° F can be held and controlled to within ±1 per cent of scale by model PB AIC indicator/controller which operates on less than 1 ma current. Unit provides both straight cut-off and simple on-off control as required for industrial furnaces, ovens, tanks or similar production equipment. It consists of indicating pyrometer unit and an electronic control unit which opens and closes load relay regulating fuel supply to process. Both are housed in single, compact case. Capacity is 5 amp at 115 v. Circuit contacts are graphite coated and draw less than 1 ma at 25 microwatts. Instrument can be surface or flush mounted. Available ranges are 0 to 600, 1000, 1500, 2000 and 2500° F. Made by **Automation Instrument Corp.**, Dept. NED, 1516 Summer St., Philadelphia 2, Pa.

▲ For more details circle NED-417 L5 on enclosed inquiry slip ▲

LAMINATING PRESS offered with two to four platens



Manually operated two-stage hydraulic pump which automatically switches from low to high pressure is a feature of the KM-2 hydraulic press for laminating and rubber and plastic molding on a production or laboratory basis. Maximum platen opening is 8 in., stroke is 4 in. and daylight between uprights is 10¼ in. Standard models have two, three or four 8 x 8-in. or 9 x 12-in. platens.

Adjustable Thermoswitches control output of cast-in electric heaters in each platen up to 600° F. Operation can be on either 110 or 220 v ac or dc. Protected built-in thermometers on platens have a 200-600° F range. Water cooling is made possible by cast-in steel coils which can also be used for oil, steam or air heating.

Control panel is isolated and cooled by air space between housing and upper platen. All components are easily accessible for inspection and servicing. Press is also available without a pump for use where a hydraulic system exists and with a two-stage electric pump, pushbutton or single-lever control and automatic timing and pressure regulator. Made by **Kingsbacher-Murphy Co.**, Hydraulic Div., Dept. 1, 6245 Lexington Ave., Hollywood 38, Calif.

▲ For more details circle NED-418 L5 on enclosed inquiry slip ▲

NEW TOOLS for Industry with SPENCER VACUUM

More than 100 special vacuum tools have been developed by Spencer for use in industry. They range from the floor, wall and pipe tools to the gulper which picks up volumes of material, the insulated tools for cleaning electrical equipment and hand shut-off tools for bench work. Special arrangements of hoppers and slots provide for the removal of lint, excess material and dust while the goods are passing along on the production line.

More than 100 industrial applications are illustrated in Bulletin 144.

THE SPENCER TURBINE COMPANY • HARTFORD 6 CONNECTICUT
SPENCER HARTFORD

▲ For more details circle NED-419 L5 on enclosed inquiry slip ▲

When New Molds Stick use IMS SILICONE FLUID

For Better Tool and Die Lubrication!

Shorten costly break-in periods! Simply spray on this perfect parting agent from self-dispensing aerosol! Useful too in PATTERN MAKING—releases patterns from master molds with minimum surface defects. Remember . . .

WHERE ANYTHING STICKS it always pays to try IMS SILICONE SPRAY

Get new tools into production sooner. Keep a few cans handy all the time. Order today!

DELIVERED PRICES
Single Can $2.00
Unbroken Dozen . . . $18.00
Unbroken Gross . . . $197.40

INJECTION MOLDERS SUPPLY CO.
3514 LEE ROAD WYoming 1-1424 CLEVELAND 20, OHIO

▲ For more details circle NED-420 L5 on enclosed inquiry slip ▲

FOR DEFENSE INDUSTRY MACHINIST WORKMAN FARMER

1ST IN METAL TOOL BOXES

CASES—CHESTS—CABINETS

Here are the world's finest metal boxes. They're better constructed—better looking. Known for their fine materials—workmanship—attractive design. These boxes outlook—outlast—outsell competition. Write for FREE book, including complete information.

Waterloo
VALVE SPRING COMPRESSOR CO.
WATERLOO, IOWA

▲ For more details circle NED-421 L5 on enclosed inquiry slip ▲

Why do the "hardest-to-please" ask first for Anaconda Magnet Wire?

Because Anaconda's thorough quality control system — from copper rod through each manufacturing step — assures uniform wire with good windability and elongation characteristics . . . improves the quality of products and lowers magnet wire winding costs. In addition—many users take advantage of Anaconda engineering assistance in solving special problems. If you are not already an Anaconda magnet wire user, why not learn for yourself why ANACONDA Wire has so many loyal friends. Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y.

Class A: FORMVAR* • CHAREL* • NYFORM* • NYLON
Class B: VITROTEX* • SILICONE
Class H: SILOTEX*
*Reg. U. S. Pat. Off.

ANACONDA®
MAGNET WIRE

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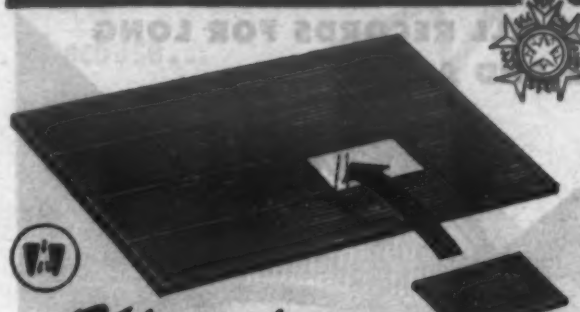
For Distinguished Service



Kleenslot WEDGE WIRE PREPARATION SCREENS

On October 6, 1952 these Wedge Wire panels, as shown, were installed on a 6 x 16 Allis Chalmers low head vibrator. On April 30, 1955, after 7,836 hours of service they had processed 1,175,400 tons of 5" x ⅜" coal, 1.36 float material. These screens are still in service and are proof positive of the long life of KLEENSLOT Wedge Wire Screens.

The illustration directly above shows the location of the test screen that was removed for checking. The dotted lines on the diagram show the point where the rinse water from two different rinse boxes hit the screens. Send for our completely illustrated catalog today.

Wedge-Wire CORPORATION
GAS STREET AT NICKLE PLATE R. R., WELLINGTON, OHIO

▲ For more details circle NED-423 L5 on enclosed inquiry slip ▲

Use The Right Tools For Your Job!

PIONEER's "Hand Protection Clinic" Helps You Solve Your Industrial Glove Problems

Send a complete job description on your company stationery. Include dexterity and abrasion resistance requirements, and a complete description of chemicals or solvents used, plus notes on any extreme temperatures encountered. Our solution of your glove problem assures you of maximum employee protection and efficiency at minimum cost. Write Attn: Hand Protection Clinic.

Comfortable new satin finish plastic coated jersey Stanflex work gloves actually outwear leather and cloth gloves. Three fully coated models and two palm coated models now available. Write for complete PIONEER line catalog today.

the PIONEER Rubber Company
234 Tiffin Road, Willard, Ohio, U.S.A.
Pioneers in Industrial Hand Protection for over 35 Years

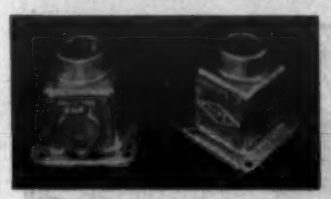
▲ For more details circle NED-424 L5 on enclosed inquiry slip ▲

MINIATURE ROTARY SWITCH for up to 3 amp at 115 v ac

Multicircuit control in limited space can be achieved with this M-12 twelve-position switch upon which six decks can be ganged for operation with single knob. It is ¾-in. square and weighs ½ oz. Action can be make-before-break or break-before-make, with continuous rotation or movement limited from 2 to 11 positions. Switch can be furnished with watertight dustproof seal in outer mounting nut. Interrupting rating is ½-amp at 115 v ac. Made by **R-F Electronics, Inc.**, Dept. N, Weymouth 88, Mass.

▲ For more details circle NED-425 L5 on enclosed inquiry slip ▲

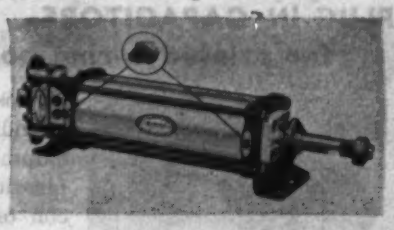
LIGHTING POLE BASE equipped with receptacle



Three-wire, 20-amp, 250-v polarized weatherproof receptacle is available in all four sizes of Hope malleable iron pipe lighting pole bases. Receptacle can be used for plugging in small power tools, grinders, sanders or portable or trouble lights. Bases are threaded for uprights of 2, 2½, 3 or 4-in. pipe. They can be furnished with receptacle cover (left) or standard cover (right). Made by **Hope Electrical Products Co.**, 345 Wilson Ave., Newark 5, N. J.

▲ For more details circle NED-426 L5 on enclosed inquiry slip ▲

AIR MOTOR thrust is five times air pressure



Offered in all standard mounting styles, this 2½-in. bore air motor with adjustable cushioning at either or both ends operates at pressures up to 175 psi. Thrust is equal to five times air pressure applied. Unit has four-way valve and speed controls similar to other Bellows air motors. The built-in valves are available for 8-v or 110-v momentary contact electrical control; 110, 220, 440, or 12-v maintained contact control; direct mechanical or manual control; air-pilot valve control; and air-poppet valve control. Cushioning is effective on final ¾-in. of stroke. Made by **Bellows Co.**, 230 W. Market St., Akron 9, O.

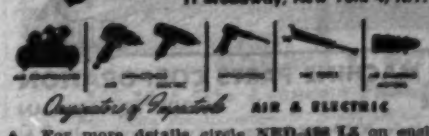
▲ For more details circle NED-427 L5 on enclosed inquiry slip ▲

IMPACutter the easy way...

Don't use slow, costly, dangerous hand methods for these jobs. The heavy-duty Ingersoll-Rand IMPACutter will pay for itself quickly. Write for bulletin describing this tool and the many jobs it can do.

18A-212

Ingersoll-Rand
11 Broadway, New York 4, N.Y.



Originators of Impactools AIR & ELECTRIC

▲ For more details circle NED-428 L5 on enclosed inquiry slip ▲

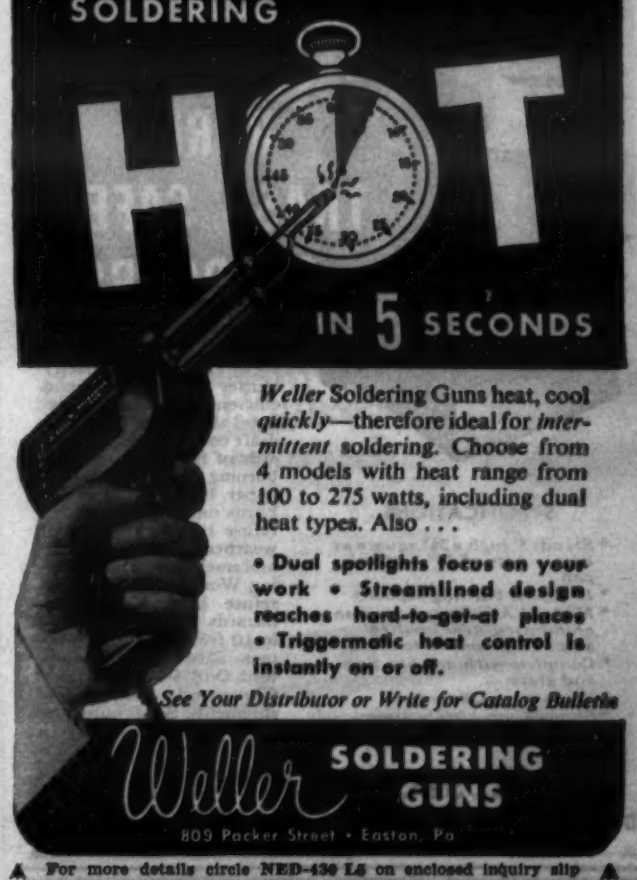
FOR FREE TRANSMISSION OF MOTION . . TOUREK "STANDARD" BALL JOINTS

TOUREK "Standard" Ball Joints have long paced the industry in quality and dependability. Critical customers have always depended upon us for UNIFORM fine quality and the accuracy they need to assure satisfactory performance and long life. Whatever length or style of Special Linkages you need, capable TOUREK Engineers will develop the ONE best and most economical design for your specific needs. ★ Although the best in Ball Joints is an outstanding TOUREK specialty, we also produce SCREW MACHINE PRODUCTS of every description, in large volume. *SEE FOR YOURSELF*. . SEND FOR NEW FREE TOUREK BALL JOINT GUIDE, TODAY!

J. J. TOUREK MFG. CO.
ESTABLISHED 1920
1901 SOUTH KILBOURN AVENUE, CHICAGO 23, ILLINOIS
UP TO 2-3/8" DIAMETER SINGLE AND MULTIPLE SPINDLE MACHINES
THREADING • TAPPING • MILLING • DRILLING • GRINDING • POLISHING • PLATING • HEAT TREATING • SILVER SOLDERING
WORLD'S LARGEST MANUFACTURER OF "STANDARD" BALL JOINTS

▲ For more details circle NED-429 L5 on enclosed inquiry slip ▲

SOLDERING



Weller Soldering Guns heat, cool *quickly*—therefore ideal for *intermittent* soldering. Choose from 4 models with heat range from 100 to 275 watts, including dual heat types. Also . . .

• Dual spotlights focus on your work • Streamlined design reaches hard-to-get-at places • Triggermatic heat control is instantly on or off.

See Your Distributor or Write for Catalog Bulletin

Weller SOLDERING GUNS
809 Packer Street • Easton, Pa

▲ For more details circle NED-430 L5 on enclosed inquiry slip ▲

COLSON PressWeld CASTERS

an improved low-cost caster with hardened raceways

Here's an unbelievably efficient light-weight caster, low in cost but high in quality. Hardened ball races and unbreakable forks and top plates assure years of trouble-free service.

Available in 3 top plate sizes and in 5 wheel sizes, from 3¼" to 8" with capacities from 140 to 800 pounds per caster. Your choice of Ni-Steel iron, rubber or plastic wheels.

Write today for new COLSON Caster Catalog No. D-339.

Casters • Hand Trucks • Lift Jack Systems • Hydraulic, Electric and Mechanical Power Lifts and Transports

THE Colson CORPORATION
Elyria, Ohio

▲ For more details circle NED-431 L5 on enclosed inquiry slip ▲

For as little as $685, a Pantex Speedylectric Steam Generator can be placed adjacent to your process equipment to assure constant temperature, dry steam, "at the flick of a switch." Low in first cost and 98½% efficient, the Speedylectric utilizes the electrode principle of generating steam electrically and requires only about one-half the floor space of conventional boilers with equal capacity. 21 sizes, 1½ to 60 Bhp. for operation on 220, 440 or 550v. Write for facts and figures.

Pantex MANUFACTURING CORPORATION
BOX 660Z PAWTUCKET, R. I.

▲ For more details circle NED-432 L5 on enclosed inquiry slip ▲

LOW COST INDUSTRIAL INCINERATOR

New 12 bushel capacity burner provides safe and efficient outdoor refuse disposal at low cost. Scientific draft control ends fire hazards of flying ash, sparks, burning blowing bits of paper. Intense combustion burns damp, green or dry refuse to fine ash in any weather. Minimizes smoke and smell. Needs no watching. Won't blow over. Ends refuse hauling and fire hazards. Safe for use within 10 feet from out buildings. Satisfaction guaranteed. Only $68.95—F.O.B. Cleveland. Immediate shipment. Send purchase order, today.

SPECIFICATIONS

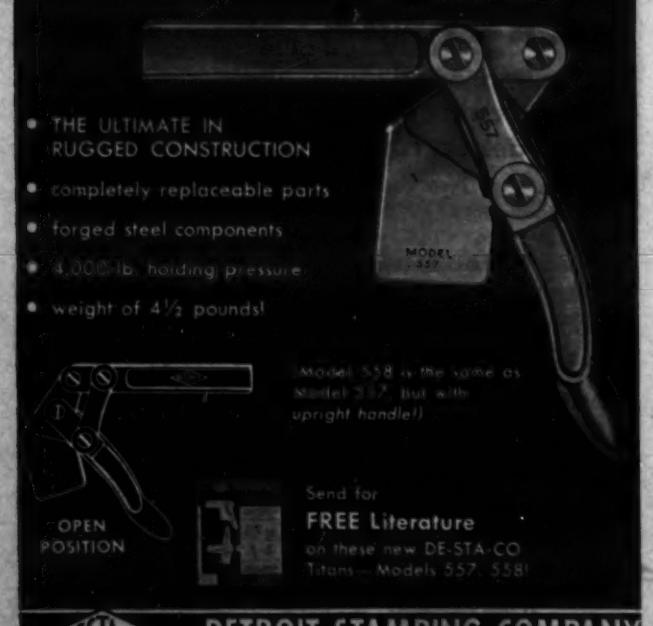
- *Stands 5' high x 36" square at base — lifts off 10" high ash pan.*
- *12 bushel burning capacity*
- *Made of Armco rust-resistant aluminized steel (molten aluminum bonded to steel).*
- *Complete with ash pan base and grate.*
- *Needs no auxiliary fuel.*
- *Shipped completely assembled—weight 165 lbs.*

ALSTO COMPANY
Dept. NED 11 • 4007 Detroit Ave. • Cleveland 13, Ohio

▲ For more details circle NED-433 L5 on enclosed inquiry slip ▲

announcing 2 NEW TITAN TOGGLE CLAMPS!

DE-STA-CO
(Models 557 and 558)



- THE ULTIMATE IN RUGGED CONSTRUCTION
- completely replaceable parts
- forged steel components
- 4,000-lb. holding pressure
- weight of 4½ pounds!

(Model 558 is the same as Model 557, but with upright handle!)

OPEN POSITION

Send for FREE Literature on these new DE-STA-CO Titans—Models 557, 558!

DE-STA-CO DETROIT STAMPING COMPANY
WORLD'S FIRST LINE OF TOGGLE CLAMPS
360 Midland Avenue • Detroit 3, Michigan

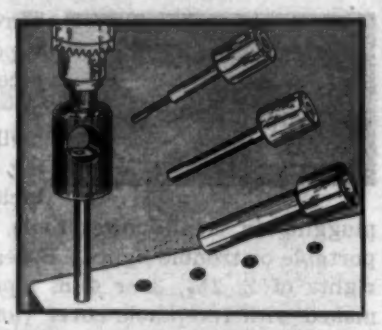
▲ For more details circle NED-434 L5 on enclosed inquiry slip ▲

PNEUMATIC SAW & FILE
light tool operates on 90-psi air

Close work filing and sawing of iron, steel, aluminum, wood and other materials are easily done with this 3¾-lb Speed-Nu-Matic saw and file. Tool attaches quickly to air supply, requires only 90-psi pressure and consumes about 5 cfm. Stroke can be adjusted from ¼ to 1¼ in. for dead-end sawing and filing. Front barrel will rotate through 360 degrees for scroll and circle cutting. Tool uses standard hack saw blade and has ¼-in. hole in chuck for bench filing. Special 4-in. molybdenum blades in 14, 18 and 32-tooth sizes are available. Made by R & G Engineering Co., Dept. S-N-M, 1512 W. Slauson Ave., Los Angeles 47, Calif.

▲ For more details circle NED-435 L5 on enclosed inquiry slip ▲

DRILL PRESS CHUCK
accommodates hollow drills



Clean, round holes can be drilled in sheet plastic, rubber and cork, blueprints, gaskets, corrugated board, cardboard and paper forms and records on a common drill press, equipped with this chuck and hollow drills. Single chuck handles drills in 14 sizes from ⅛ to ½-in. Designed for short run jobs, it accommodates stacks of sheets up to 1¾ in. Made by Pioneer Toledo Corp., 1130 Nebraska Ave., Toledo, O.

▲ For more details circle NED-436 L5 on enclosed inquiry slip ▲

PLUG-IN CAPACITORS
for printed wiring board assemblies

Enclosed in premolded cylindrical shell of nonflammable thermosetting plastic, type 89P Autocon one-ended case solid dielectric paper capacitors are designed to meet requirements of printed wiring board assemblies. Capacitor section is sealed against moisture by plastic resin end seal bonded to the phenolic housing. End seal holds the two short leads at controlled distance from each other. Capacitors are impregnated with HCX, a hydro-carbon material that has high insulation resistance, low power factor and flat capacitance-change-vs-temperature characteristics. Made by Sprague Electric Co., 183 Marshall St., North Adams, Mass.

▲ For more details circle NED-437 L5 on enclosed inquiry slip ▲

CUT MACHINE MAINTENANCE COSTS
with EMPCO leveling jacks

EMPCO Leveling Jacks cut down on set-up time and keep maintenance costs to a minimum! They provide a solid, level support for machine tools, assembly fixtures, industrial furnaces, and all types of production equipment. Machines leveled with EMPCO Jacks are easily installed and relocated—maintain new-machine performance longer! Equipment can be re-leveled in a matter of seconds by a simple turn of the hex screw.

VI-SORB Mounting Pads are optional with EMPCO Jacks. They control vibration from within the machine itself, and reduce transmitted vibrations.

Available in two styles and 6 models, there's an EMPCO Jack for your every requirement. Write today for complete information and illustrated bulletin!

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVENUE • DETROIT 12, MICHIGAN

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MEET THE CHAMP!
UNIVERSAL DRILL BUSHINGS BEAT ALL RECORDS FOR LONG LIFE AND ACCURACY

179-A

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 5, MICHIGAN

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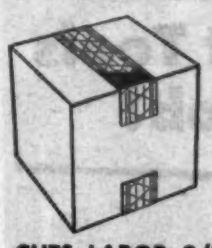
The SNAKE TAPE Idea



.. use 2 strips only!

NOW ACCEPTABLE for Rail Shipments under U.F.C. Rule 41

CUTS LABOR 2/3 because you seal only the two center seams!

IT'S STRONGER because *reinforced* Snake Tape has strap-like strength. *Strength* you'll find in no other gummed tape because it's reinforced with *rayon* yarns . . . the same rayon yarns used in the best auto tires for superior shock absorbence.

PROVE TO YOURSELF, and at our expense, how much you can save in sealing time and in damage claims. Send for FREE sample of Angier Snake Tape now.

Free - 15 yd. sample

ANGIER CORPORATION • Framingham 30, Mass.

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PARALLELS, V-BLOCKS AND TOP PLATES
for holding irregular-shaped pieces on magnetic chucks

- New Lower Prices!
- Largest selection of standard sizes and shapes.
- All-steel construction.
- Welded non-shift laminations.
- No plastic or soft filler.
- Ground parallel and square, in pairs or singly.

Request Magna-Lock as original equipment on your new machines.

WRITE FOR DETAILS, DEPT. ND-115

Hanchett MAGNA-LOCK CORPORATION
Magna-Lock
Magnetic Chucks and Devices
BIG RAPIDS, MICHIGAN, U. S. A.

▲ For more details circle NED-441 L5 on enclosed inquiry slip ▲

Order USG BRUSHES because...

- Years of practical experience in all types of applications assure you of the proper USG brush for your equipment.
- Controlled manufacturing uniformity gives you the same brush every time you order.
- There is a USG representative near your plant. See him or write for your copy of the USG Brush Catalog B49 today.

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION
SAGINAW, MICHIGAN
198-A

▲ For more details circle NED-442 L5 on enclosed inquiry slip ▲

How many uses for DEXION In your plant?

Only your imagination limits the applications of this ingenious slotted angle framing material. Users discover that they can build whatever they need—when they need it—and build it cheaper! Easily dismantled, DEXION Slotted Angle can be *reused* in new ways to meet changing needs. There's no waste! And anyone who can use a wrench and a saw (or DEXION cutter) can build with this precision-made slotted angle.

Here's why you'll want DEXION Slotted Angle over any other framing material

1. Simple to connect.
2. Easy to cut.
3. Strong and rigid.
4. Re-usable.
5. Easy to measure.
6. Easy to store.

DEXION is a packaged product, ten pieces to a package, each piece 10 feet long. Three types, with dimensions of 3" x 1½" x .080"; 3" x 1½" x .104"; 2½" x 1½" x .080".

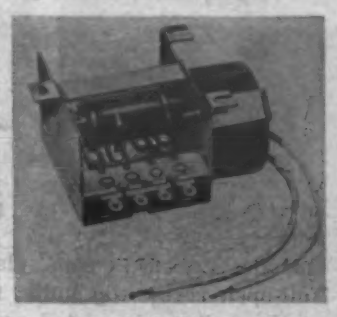
GET THE EXCITING NEW DEXION IDEA BROCHURE,

which gives you full information—and shows what scores of manufacturers are building with this amazing framing material. Write direct to the address shown below.

DEXION DIVISION
ACME STEEL COMPANY
Dept. IIF, 2840 Archer Avenue, Chicago 8, Illinois

▲ For more details circle NED-443 L5 on enclosed inquiry slip ▲

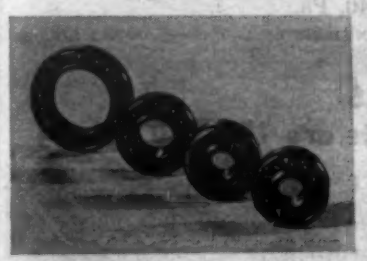
TIMER SWITCH
for automatic sequence controls



Four different circuits are controlled by this interval timer switch to generate four different operations during an 8-second cycle. Basic switch action can be supplied in varied portions of total cycle and with facilities for controlling varied numbers of circuits. It is applicable to many types of automatic sequence controls for machine tools, vending machines and other relatively short interval uses. Operation of UL-approved unit is from 110-v, 60-cycle lines. Made by **P. R. Mallory & Co.**, 3027 E. Washington St., Indianapolis 6, Ind.

▲ For more details circle NED-444 L5 on enclosed inquiry slip ▲

BALL BEARINGS
easily installed semiprecision types



Available for shaft diameters up to ½-in., line of low cost semiprecision ball bearings incorporates a design principle which minimizes installation time. Standard and sealed models are available. Bearings have precision ground balls and case hardened races to withstand heavy radial loads in general purpose, low speed applications. Made by **Freeway Washer & Stamping Co.**, 4911 Grant Ave., Cleveland 5, O.

▲ For more details circle NED-445 L5 on enclosed inquiry slip ▲

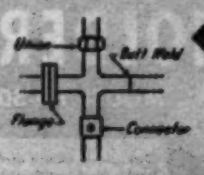
CONTROL PANELS
for automatic operation of equipment

Control panels for automatic operation of process equipment, machine tools, microwave equipment, textile machinery, sequence operations and other equipment can now be compactly built to specifications. Panels are available as open type, or enclosed in dusttight, explosion-proof, watertight or dripproof cabinets. All meet JIC specifications. Photo shows Pantro panel containing automatic engine-generator controls which assure continuous power supply for U. S. Air Force communications and navigation equipment. Made by **Industrial Control Panel Co.**, Dept. NDC, 517 W. Monroe St., Chicago 6, Ill.

▲ For more details circle NED-446 L5 on enclosed inquiry slip ▲

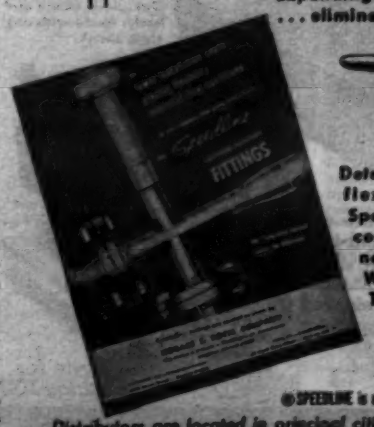
THE NEW STANDARD IN PIPELINE ECONOMY

Speedline® STAINLESS STEEL FITTINGS SIMPLIFY PIPELINE DESIGN!



FITTING IS ADAPTABLE . . . YOU SELECT THE TYPE OF JOINT

- Simple layouts require fewer design hours
- Versatility permits reduced inventory
- Expanding feature saves time, money . . . eliminates need for costly tools



Details of the greater design flexibility possible with Speedline Fittings—at lower cost—are contained in this new illustrated catalog. Write for a copy today. There's no obligation.

®SPEEDLINE is a registered Horace T. Potts Co. trademark

Distributors are located in principal cities from coast to coast

Speedline STAINLESS STEEL FITTINGS

manufactured by HORACE T. POTTS COMPANY
532 East Erie Avenue • Philadelphia 34, Pa.

▲ For more details circle NED-447 L5 on enclosed inquiry slip ▲

unique in design — rugged in construction

GREEN PANTOGRAPH ENGRAVERS

THE FAMOUS MODEL 106

THE NEW HEAVY-DUTY MODEL D-2

The three-dimensional bench Model 106 cuts costs — engraves, routs, models and profiles, giving you expert results even by unskilled workers.

The Model D-2 two dimensional heavy-duty Pantograph is a precision machine with a multitude of new features. Open on three sides, it permits complete freedom for engraving, milling, profiling large panels (up to 30" in diameter) or bulky pieces. Single, micrometer adjustment controls vertical depth of cut, automatically adjusting copy table with pantograph. Range of reduction ratios from 2-to-1 to infinity! Vertical range over 10 inches!

For complete information, write to

GREEN INSTRUMENT COMPANY
375 Putnam Ave. Cambridge, Mass.

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Get them from Gillen Precision Made Pieces A Few or a Lot...

MACHINE KEYS

Gillen makes Every Type...

To rigid tolerances, completely deburred; no further finishing required. Standard Gib Head and Plain Taper, Straight and Round End Feather Keys. Ready for use. Eliminate costly fitting at assembly line. Write for Prices.

MACHINE PARTS

Ready for Assembly...

Investigate buying from Gillen instead of making up. Every shape and size, milled, drilled, tapped, countersunk, counterbored, heat-treated, surface ground, many metals. Send your blueprint for prompt quotation.

John Gillen Company

Makers of: Taper Pins, Machine Parts & Keys, Groove Pins
2562 South 50th Ave., Cicero 50, Illinois

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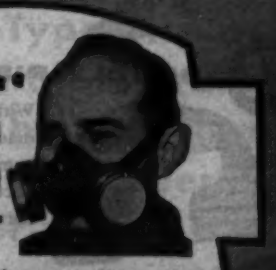
CESCO RIGHT... before your Eyes!

NOW... a Triple Use Respirator



for Organic Vapors—Uses two 85cc absorbent cartridges. BM approval No. 2307. Catalog No. 99.

for Dust—Uses two treated wool-felt filter pads. BM approval No. 2167. Catalog No. 96.

for Paint Spraying—Uses auxiliary cellulose filters to prevent cartridge clogging. Catalog No. 99-X.

• Contoured, snug fitting, comfortable facepiece. Free-breathing valves. No tool required for changing filters. Economical to use. See your CESCO distributor.

Send TODAY for CESCO literature

CHICAGO EYE SHIELD COMPANY • 2322 Warren Boulevard, Chicago 12, Illinois

CESCO FOR SAFETY

OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Dallas, Detroit, East Orange, Houston, Indianapolis, Kansas City, Knoxville, Little Rock, Los Angeles, Mexico City D. F., Milwaukee, Montreal, Newark, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa, Wichita

▲ For more details circle NED-450 L5 on enclosed inquiry slip ▲

HALLOWELL

SOLID STEEL COLLARS

Size-marked for quick identification in 42 stock sizes

And these precision-machined solid steel collars stay put because they are held in place on the shaft by the famous UNBRAKO Self-Locking Socket Set Screw. Authorized industrial distributors carry complete stocks in sizes from 1/16" to 3" inclusive. Write for Bulletin 868. STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

HALLOWELL POWER TRANSMISSION DIVISION **SPS** JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-451 L5 on enclosed inquiry slip ▲

3 GREAT FEATURES Unique with U. S. VARIDRIVES

... for dependable, long-life, Variable Speed

With a U. S. Varidrive motor you can get instantly all the speeds needed for every operating condition. You can have infinite speeds at your instant command without resorting to cumbersome speed-changing contraptions and costly external equipment. The Varidrive combines all equipment in one compact "package," occupying little more space than an ordinary motor, for convenient installation.

1 AUTOTAUT TENSION CONTROL

Autotaut automatically compensates for wear, stretch and changes in length of the belt drive, without manual adjustment. Exact tension is obtained by a live, resilient spring which has been accurately calibrated at the factory.

2 DOUBLE-RIBBED BELT

With the double-ribbed design, smaller diameters and greater speeds can be combined with maximum motor compactness. The Varibelt provides double corrugation reduces internal friction.

3 SLIDING SPLINE

The U. S. Varidrive gears the shaft and sliding Varidisc together with an involute spline. Integral teeth maximum strength with minimum diameter, and reduce wear and vibration.

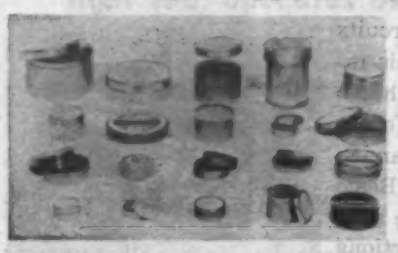
U. S. MOTORS

U. S. ELECTRICAL MOTORS INC. NED-11
P. O. Box 2058, Los Angeles 54, Calif., or Milford, Conn.
Ask for Booklet #1797

NAME _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____

▲ For more details circle NED-452 L5 on enclosed inquiry slip ▲

SEAMLESS METAL CANS
variety of types for packaging uses



Wide variety of small, seamless metal cans for laboratory, production line and packaging use includes capacities ranging from 1/16 to 16 oz. Line includes LabelStik cans, plain seamless slip cover or full-open screw top units, flanged top cans for hermetic sealing, decorated seamless cans and specially made seamless units. LabelStik cans in 1/4 to 16-oz capacities have Crimptite lid. Five sizes have outwardly curled San-I-Safe edge. Plain seamless units are offered in flat type in capacities from 1/16 to 16 oz, and deep style, from 1/2 to 16 oz. Decorated cans, in 1/16 to 16-oz sizes, can be lithographed in any color, design or wording. Eight sizes of screw top cans range from 3/4 to 16 oz, while hermetic sealing units are made in nine sizes from 1/2 to 16 oz. Made by **George D. Ellis & Sons, Inc.**, Dept. N, 4040 N. American St., Philadelphia 40, Pa.

▲ For more details circle NED-453 L5 on enclosed inquiry slip ▲

BELT CONVEYORS
powered units are 15 to 30 ft long

Stacking of boxes, cartons and bags and moving material from one floor to another is facilitated by line of Portable Booster powered belt conveyors. Model PS-1 and PS-2 units are offered in lengths from 15 to 30 ft, with belts 12, 16, 18, 20, 24, and 30-in. wide. Feed-off end is adjustable in height from 6 to 12 ft through a hydraulic ram. Feed end is offered with 14-18, 18-24 and 23-42-in. stands. Portable units are powered by 1/3, 1/2, 3/4 or 1-hp geared motors. They have full-length control bar and can be run forward or reverse. Made by **Sage Equipment Co.**, 28 Essex St., Buffalo 13, N. Y.

▲ For more details circle NED-454 L5 on enclosed inquiry slip ▲

Analog Computer Components

Servo Corp. of America—Versatile array of electromechanical general purpose analog computer components called Servomation Building Blocks are detailed in 12-page illustrated brochure TDS-2300. They provide the means for industrial control, design and mathematical problem solving and data processing. Units are co-ordinated modular assemblies.

▲ For more details circle NED-455 L5 on enclosed inquiry slip ▲

For PRESS STAMPING PRODUCTS WITH CURVED OR STRAIGHT LINE MARKING

PRESS STYLE **STEEL TYPE HOLDER**
MODEL PH-50

Body and press shank are one piece with flanges to hold type chase in position. Type chase with almost any size or number of characters can be removed and inserted without operator placing hands in press.

Write for Catalog 100

Mecco SAFETY MARKING TOOLS **M.E.CUNNINGHAM CO.**
1055 CHATEAU STREET, PITTSBURGH 33, PA.

▲ For more details circle NED-456 L5 on enclosed inquiry slip ▲

midget water stills

Only **$110.00**

What does it cost you to buy distilled water?*
Precision Midget Water Stills can save you money and provide the convenience of...

Fresh pyrogen-free distilled water WHEN and WHERE you want it.
At a half gallon per hour rate—trouble-free operation.

Easy to install and maintain.
No plumbing connections required, compact, portable, automatic operation, easily cleaned.

Thousands of applications under varying conditions have proved their utility and performance.

Smaller than a 5-gallon bottle
Tinned copper parts in vital areas
Gas-free water at all times
Low current consumption
Efficient preheating of raw water before entering evaporator.

**The Midget costs only 7½c per gal. at 3c per kilowatt hour.*

AVAILABLE FOR IMMEDIATE DELIVERY
Send for new bulletin No. 912

Precision Scientific Company
3755 West Cortland Street • Chicago 47

▲ For more details circle NED-457 L5 on enclosed inquiry slip ▲

Straightens Ends of Coiled Rod for Insertion Into Drawing Dies or Cold Heading Machines...

Manco Guillotine Rod Straightener

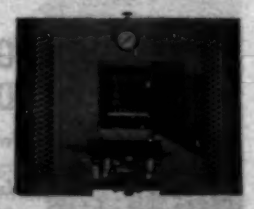
You can quickly and easily straighten the leading end of heavy coiled rod using a Manco Guillotine Hydraulic Rod Straightener. With it a 4' length can be straightened in about 15 seconds. Capacity for 9/16" to 1¼" diameter. Unit equipped with electric hydraulic pump. Weight of head, 18 lbs.

Write For Catalog—Dept. NED-11
MANCO Mfg. Co. BRADLEY, ILLINOIS

▲ For more details circle NED-458 L5 on enclosed inquiry slip ▲

new midget dryer

Small, extremely compact, low cost, efficient, desiccant type automatic dryer that handles gas or compressed air. Specifically made for a wide variety of industrial and laboratory applications for drying small volumes of compressed gases.



write get full details from

INDUSTROL CORPORATION

468 Westfield Ave., East Roselle Park, New Jersey

▲ For more details circle NED-459 L5 on enclosed inquiry slip ▲

Improve Inert Gas Arc Welding with ARCOS CHROMAR Stainless Wire

If you are concerned with inert gas shielded arc welding of stainless steels, you need the extra advantages of Arcos CHROMAR Stainless Spooled Wire. You get close control of wire analysis within the critical range needed for quality weld metal. Assurance of quality comes from the long experience of Arcos as specialists in welding stainless steel. Other assurances of quality weld metal easily deposited are its bright, clean finish, accurate level-layer winding and pre-testing of each batch to assure uniformity.

For more information, write today for this Application Chart on Arcos Stainless Welding Rods and Bare Electrodes.

ARCOS CORPORATION
1500 South 50th Street, Philadelphia 43, Pa.

▲ For more details circle NED-460 L5 on enclosed inquiry slip ▲

New Plastic Material Repairs Floor Cracks!

A new plastic material formulated for the specific purpose of repairing floor cracks and preventing surface deterioration is announced by The Monroe Company, Inc., Cleveland.

Before

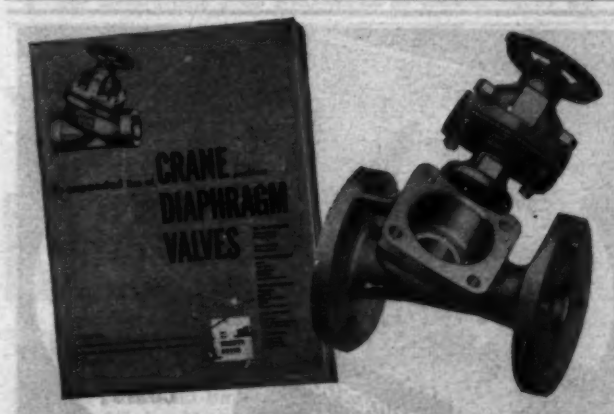
After

Known as "Jiffy Floor", it is a fine granular, ready-to-use plastic product that can be applied without interfering with production or traffic. It readily fills hairline cracks, shallow holes, spalled floors or expansion joints. Immediately after application, it will withstand heaviest loads.

Jiffy Floor contains no asphalt, cement, sand or gravel. It will not crack, crumble or curl . . . is not affected by temperature changes . . . can be applied indoors or out.

Jiffy Floor is waterproof, dustless, skid-proof and noiseless. Available in 5-10-30 and 55-gallon drums, ready for easy use. For further information, write *The Monroe Company, Inc., 10703 Quebec Avenue, Cleveland 6, Ohio.*

▲ For more details circle NED-461 L5 on enclosed inquiry slip ▲



Leaky stuffing boxes your headache? Send for 24-page booklet on Crane Packless Diaphragm Valves

When stuffing box leakage is a serious problem, why not consider Crane Packless Diaphragm Valves?

In these valves line fluid doesn't enter the bonnet—it's sealed with a long-life diaphragm that eliminates packing. Separate disc gives tight seating—saves wear on the diaphragm—permits closure on fluid should diaphragm fail.

These Crane valves are used on water, air, oil, gas and on many corrosive, abrasive and hard-to-hold fluids. Choose from a wide variety of body and trim materials; also body linings. Send for catalog giving valuable application data.

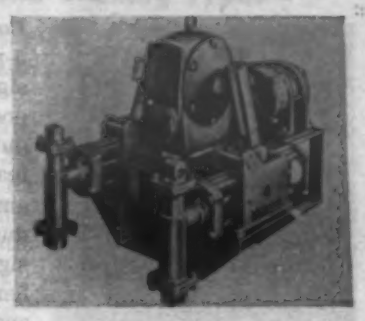
CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • KITCHENS • PLUMBING • HEATING

▲ For more details circle NED-462 L5 on enclosed inquiry slip ▲

METERING PUMPS for pressures up to 50,000 psi



Controlled capacity type, reciprocating plunger pumps for pressures up to 50,000 psi will accurately meter output from minimum of 2 cc per hour to 15,000 gph. Units are available in simplex, duplex, triplex and quadruplex types, all of which are adaptable to manual and automatic control. They are particularly useful as sources of hydraulic power. Made by **Philadelphia Pump & Machinery Co.,** 1513 Race St., Philadelphia, Pa.

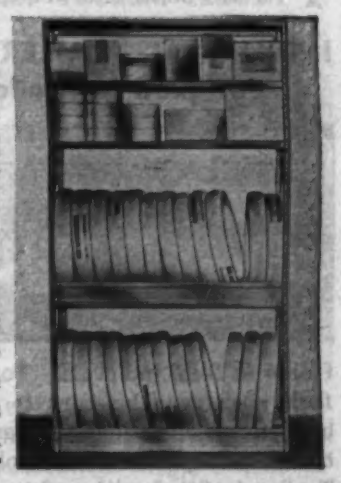
▲ For more details circle NED-463 L5 on enclosed inquiry slip ▲

BALL PEIN HAMMER head permanently fastened to shaft

Hand grip on the Rocket ball pein hammer is a neoprene-fiber cushion that is bonded permanently to the chrome plated tubular steel shaft. Head is fastened permanently to the bend and breakproof shaft. Cushion grip is non-slip, even when wet or when the user wears gloves. Being of neoprene, it resists oil and grease. The balanced hammer is available in 1, 1½ and 2-lb head weights. Made by **True Temper Corp.,** Dept. NED, 1623 Euclid Ave., Cleveland 15, O.

▲ For more details circle NED-464 L5 on enclosed inquiry slip ▲

ADJUSTABLE RACK is easily moved all-steel unit



Small coils of wire, steel strapping and other circular items can be neatly stored on this adjustable portable rack. All items stored are readily accessible. Rack is made of steel and has a capacity of 1300 lb at each rack level. Shelves have a 300-lb capacity. Shelves and supporting rails are adjustable in height on 2-in. centers. Racks themselves are 48 in. wide, 18 in. deep and 7 ft 3¼ in. or 9 ft 3¼ in. high. Made by **Frick-Gallagher Mfg. Co.,** 112 S. Michigan Ave., Wellston, O.

▲ For more details circle NED-465 L5 on enclosed inquiry slip ▲

Raise Your Speed — **Lower Your Cost**

NEW

Model RTH Straight-line — Model RTS orbital

GUSTO Heavy Duty Direct Drive SANDER

Unsurpassed for flat or curved surfaces...vertical or horizontal...tight spots right to edges. Heavy duty squirrel-cage motor—no brushes, no belts, no gears. New automatic protecting switch prevents burn-outs. Largest sanding pad of any hand sander. Exclusive safety insulated handle withstands shocks up to 2000 volts.

LESTO Electric HAND SAW

Swiss watch precision in a heavy-duty portable hand-saw. That's the secret of LESTO cutting speed and accuracy. 2300 strokes per minute cut so fine sanding is unnecessary. A true all-in-one saw: rip, scroll, band, jig, cross-cut, coping, keyhole—cuts inside holes without a starting hole . . . cuts 2" wood beams . . . soft metals, plastics, cement sheet, etc.

LESTO Electric SHEARS

For all sheet-metal work up to 16 gauge. Compact design, handy shape. Perfect for hard-to-reach places. Cutting speed 5 ft./min. Weight 3¼ lbs. Larger model cuts up to 12 gauge. Weight 6½ lbs.

VICTOR J. KRIEG, Inc.
Exclusive Importers
611 Broadway, New York 12, N. Y.
GRamercy 7-5757

▲ For more details circle NED-466 L5 on enclosed inquiry slip ▲

Instruments for Measuring AIR TEMPERATURE and VELOCITY

TEMPSCRIBE Recording Thermometer

Available in 10 different ranges to cover −30°F to +160°F temperatures, and with spring-operated chart drives for any of the following chart rotations: 8 hours, 24 hours or 7 days.

This entirely self-contained, compact and reliable temperature recorder automatically writes a continuous record of temperature changes on a replaceable chart. Record shows at a glance maximum and minumum temperatures and the duration of temperatures above or below any given point; also shows the exact time of every temperature change and how rapidly it takes place. Recording pen and bi-metallic element are built in hinged, removable door which is also front of instrument. Thus, by merely changing doors it is easy to interchange temperature ranges. Instrument is 8" tall, 5½" wide and 4½" deep. Charts are 4½ inches in diameter.

Write for Bulletin I-715

FLORITE Anemometer

In principle, this unique instrument operates as an anemometer but provides instantaneous, direct readings of air velocity without timing, calculations or reference to charts. Readings are obtained by holding the instrument in the air stream so that air blows against its circular face, causing rotation of a multi-blade rotor mounted in instrument housing. The circular scale surrounding the rotor instantly turns to correct air velocity reading under an index pointer on scale window. Furnished with detachable handle (not shown) and leather case.

Available in two styles: One with a scale of 0-1000 ft./min., and the other with a scale of 0-3000 ft./min.

Write for Bulletin I-760

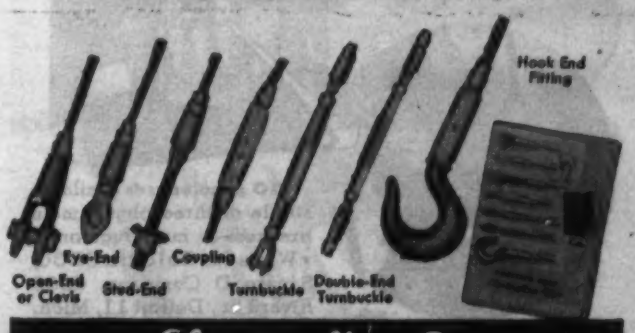
BACHARACH Industrial Instrument Co.
7301 PENN AVENUE • • PITTSBURGH 8, PA.

▲ For more details circle NED-467 L5 on enclosed inquiry slip ▲

Cut out needless re-roping costs

USE ELECTROLINE WIRE ROPE FITTINGS

In minutes, ordinary labor can install Electroline fittings that will hang on for all time. Prolong wire rope life by damping vibration stresses thus eliminating wire rope fatigue at the fitting. Write for Electroline Catalog. It points out many savings—no cost.



Electroline Company
4121 SOUTH LA SALLE STREET
CHICAGO 9, ILLINOIS
IN CANADA: POWERSITE DEVICES LTD. TORONTO

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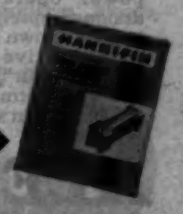
EVERY ENGINEER will want to know all about Hannifin's new Square-Type Air and Hydraulic Cylinders that incorporate the biggest single improvement in cylinder design in the last

50 YEARS!

WRITE FOR

← BULLETIN 113
Hydraulic Cylinders 2000 p.s.i.—3000 p.s.i. (non-shock)

BULLETIN 213 →
Fluid Power Cylinders 200 p.s.i. (air or oil)

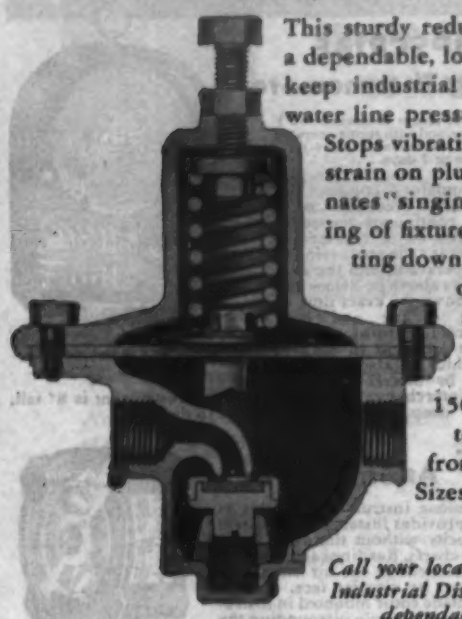


HANNIFIN

Hannifin Corporation, 527 S. Wolf Road, Des Plaines, Illinois
Air and Hydraulic Cylinders • Presses • Air Control Valves

▲ For more details circle NED-469 L5 on enclosed inquiry slip ▲

For Accurate Water Pressure
MASONEILAN No. 227 Reducing Valve



This sturdy reducing valve is a dependable, low cost way to keep industrial or domestic water line pressures constant. Stops vibration — reduces strain on plumbing. Eliminates "singing" and splashing of fixtures without cutting down on flow. Little or no maintenance required. Initial pressures up to 150 lbs., reduced to any pressure from 10 to 100 lbs. Sizes from ¼" to 2".

Call your local Mason-Neilan Industrial Distributor for fast, dependable service.

MASONEILAN

MASON-NEILAN
REGULATOR CO.
1189 ADAMS STREET, BOSTON 24, MASS., U. S. A.

▲ For more details circle NED-471 L5 on enclosed inquiry slip ▲

NEW NQO LIGHTING PANELBOARD

with QO *—finest breaker ever built!*

NQO panelboards available single or three phase, main breakers or main lugs only. • Write for Bulletin SD30, Square D Company, 6060 Rivard St., Detroit 11, Mich.

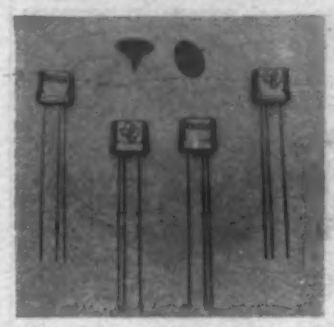
ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

▲ For more details circle NED-472 L5 on enclosed inquiry slip ▲

▲ For more details circle NED-473 L5 on enclosed inquiry slip ▲

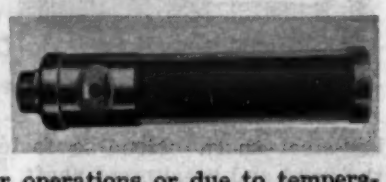
SWITCHING TRANSISTORS
for switching and computer use



Four types of germanium n-p-n transistors are designed for general purpose switching and computer applications and feature closely held parameter tolerances, production to standard design characteristics and hermetic sealing. High speed switching is made possible by a rise time in a typical circuit of 0.15-microsecond and a typical cutoff time of 3.5 microseconds. Bearing RETMA designations of 2N124, 2N125, 2N126 and 2N127, the individual types have beta values of 12 to 24, 24 to 48, 48 to 100 and 100 to 200. Made by **Texas Instruments Inc.**, 6001 Lemmon Ave., Dallas 9, Tex.

▲ For more details circle NED-474 L5 on enclosed inquiry slip ▲

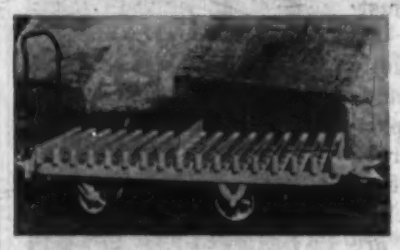
STORAGE TANK BREATHERS
reduce moisture content of air



Inexpensive method of reducing the moisture content of atmospheric air entering into storage tanks during transfer operations or due to temperature changes is provided by these indicating dry air breathers. A brass housing permanently screwed into the tank top holds a transparent chamber filled with an indicating chemical drying agent. As moisture is absorbed, this agent changes color. Reactivation is by oven-baking until the original color returns. Breathers are available in three sizes for tanks of 500 to 5000 gal capacity. Made by **McIntire Co.**, Dept. C, Okner Pkwy., Livingston 11, N. J.

▲ For more details circle NED-475 L5 on enclosed inquiry slip ▲

INDUSTRIAL TRAILER
designed for palletless handling



Designed for palletless handling, this industrial trailer has a deck of 4 x ¼-in. bar stock, rounded on each end in oblong shape and welded to the frame at 2-in. intervals. Fork trucks insert multiple forks between the bars to pick up loads. Unit is built to specifications of standard A-310 caster-steer trailer except for the deck. Capacity is 2 tons. Trailer is fitted with safety self-couplers for "trackless train" operation. Deck is 30 x 84 in. and 14¾ in. high. Made by **Mercury Mfg. Co.**, 4038 S. Halsted St., Chicago 9, Ill.

▲ For more details circle NED-476 L5 on enclosed inquiry slip ▲

▲ For more details circle NED-477 L5 on enclosed inquiry slip ▲

PACKAGED HEAT FOR FORCED AIR INSTALLATIONS
...TRENT "FOLDED-and-FORMED" HEATING UNIT PLUG

Here, in one compact "package" is a complete unit for efficient, high temperature controlled heating of forced air recirculating systems in annealing and tempering furnaces, heating ducts, baking and drying ovens. Multiple banks of Trent "Folded-and-Formed" heating element racks are assembled, wired and mounted in a self contained insulated plug, complete with terminal control box. The unique construction of Trent "Folded-and-Formed" exposed ribbon type resistor elements assures maximum high temperature heat transfer... greater radiating surface per square inch of element cross section than any other type of electrical heating element.

TRENT "FOLDED-and-FORMED" HEATING UNIT PLUGS ARE GUARANTEED FOR FIVE YEARS!

TRENT FFP TYPE HEATING UNIT PLUG GIVES YOU

- Maximum Frame Temperatures to 1500°F.
- Velocities up to 2000 Ft./Min.
- More Wattage per Cubic Foot
- Watt Densities from 10 to 30 Watts per Sq. Inch
- Higher Temperature Operation
- 120, 240, 480 or 600V—3 Phase or Single Phase

These features add up to quicker heating and faster cooling, longer element and unit life . . . better controlled heat at lower cost.

Let our experienced Trent Heating Engineers analyze your requirements and recommend the best installation for your operations . . . or ask to see the new Trent "Folded-and-Formed" Heating Element booklet.

TRENT INC.
Electrically Heated Industrial Equipment
247 LEVERINGTON AVE., PHILA. 27, PA.

▲ For more details circle NED-478 L5 on enclosed inquiry slip ▲

▲ For more details circle NED-479 L5 on enclosed inquiry slip ▲

54 pages on how to select and use abrasive discs for...

- Different materials and parts
- Various surface grinders
- Desired stock removal
- Desired finish
- Top production rates

GARDNER MACHINE COMPANY
460 Gardner St., Beloit, Wisconsin

121A

▲ For more details circle NED-480 L5 on enclosed inquiry slip ▲

NEW APPLICATOR SPREADS DRAWING COMPOUND AUTOMATICALLY

Speeds production, saves 50% on compound, increases die life, reduces scrap loss

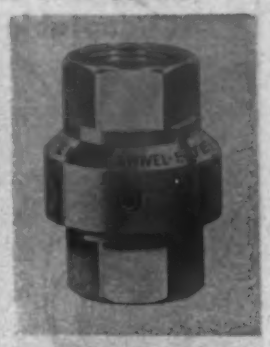
THE NEW Lovell compound applicator prepares sheet metal for the drawing press by automatically applying compound to the blanks. It speeds production — no more hand brushing or dunking. No extra help is needed. Because it distributes compound more evenly, it reduces the amount used, up to 50%. This also reduces die damage, cuts scrap loss. Dies last longer, honing time is reduced.

This machine can easily be moved from one press to another on a roll-a-way table. It plugs into the light circuit. Can be attached to a "level rolling" process. Durable Neoprene rolls operate in either direction. For complete story, write us for booklet No. DA1. Lovell Mfg. Co., Erie, Pennsylvania. *Advt.*

▲ For more details circle NED-481 L5 on enclosed inquiry slip ▲

▲ For more details circle NED-482 L5 on enclosed inquiry slip ▲

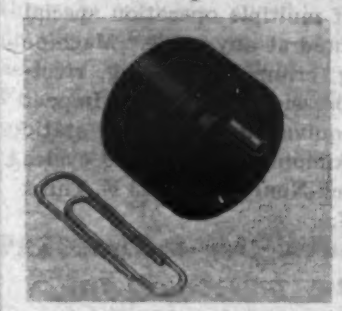
SWIVEL JOINT
free-turning and braking types



Swivel-Ette swivel joint, made in ½ and ¾-in. pipe sizes, is suited for hose lines where flexing and weaving are encountered. It rotates 360 degrees and is intended for occasional or intermittent turning, rather than continuous rotation. Free-turning type and one which incorporates an adjustable brake shoe to effect the desired torque are offered. Made by **Emsco Mfg. Co.**, Box 2098, Terminal Annex, Los Angeles 54, Calif.

▲ For more details circle NED-484 L5 on enclosed inquiry slip ▲

SUBMINIATURE GEAR HEAD
has adjustable slip clutch



Measuring 0.937-in. diameter, subminiature gear head adds ⅝-in. to length of size 10 motors in this model with a 26.4:1 reduction ratio. It is available in all practical ratios. The unit contains an internal adjustable slip clutch, has backlash of less than 30 minutes and weighs 1¼ oz. Stainless steel housing has a black passivated finish. Gear clusters and pinions are stainless steel, and ABEC Class 5 bearings are used. Made by **Bowmar Instrument Corp.**, 2442 Pennsylvania St., Ft. Wayne, Ind.

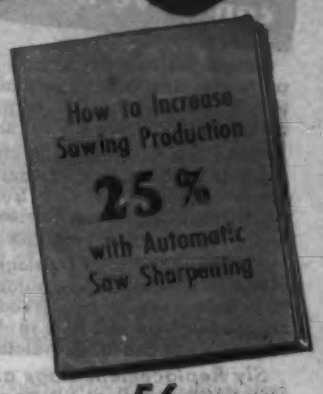
▲ For more details circle NED-485 L5 on enclosed inquiry slip ▲

PLUG-IN SILICON RECTIFIER
replaces rectifier vacuum tubes

High voltage, high current, miniature silicon power rectifiers are used in this plug-in type rectifier, designed to replace conventional rectifier vacuum tubes. Input and output voltages remain the same, but the plug-in units require no filament voltage, thus bringing about a power savings. Units are reported to have infinite life and function efficiently under high ambient temperature, shock, vibration and acceleration. Applications include control engineering, magnetic amplifiers, computer and counter circuits and voltage regulators. Made by **Bogue Electric Mfg. Co.**, Dept. LS-1, 52 Iowa Ave., Paterson 3, N. J.

▲ For more details circle NED-486 L5 on enclosed inquiry slip ▲

IF YOU USE SAWS GET THIS FREE BOOK



This free book is based on facts and experience from many years' use of Foley precision saw filing equipment in thousands of plants. It contains pictures and helpful data showing how firms have actually increased sawing production 25% to 40%, lengthened saw life, reduced breakage, produced better work, and have lowered maintenance costs. One firm reports an annual saving of $350. Book includes instructions illustrating how automatic sharpening can benefit you. Request Manual No. 100—no obligation.

56 helpful pages

FOLEY MANUFACTURING CO.
3323 N. E. 5TH ST. • MINNEAPOLIS 18, MINN.

▲ For more details circle NED-487 L5 on enclosed inquiry slip ▲

THE NEW IMPROVED *Fluid-Feed* ROTARY TABLE

A Great New Achievement in COST-CUTTING LABOR-SAVING Production Equipment!

Deftly holds and delivers small parts to drill, tap, swage, stake, etc. 8, 12 or 24 stations accurate to .003". Positive, uniform air-hydraulic indexing—not a mere hydraulic check. Indexes slow or fast, up to 2800 per hour. Compact and sturdy, easy to tool and hook up. Standard dial plate 12" x ½" ground steel. For a new job, simply tool up a new dial. Readily combines with "MEADMATIC" Timer, Air Hammer, Air Press, Drill Presses etc., to make almost completely automatic machines—operator merely loads!

Write Factory or Nearest Mead Representative for Bulletin NA-115

Write for catalog of this and other pneumatic cost-savers. Or let our representative show you some of the possibilities. (See Volume 111 Thomas' Register for nearest address, phone number.)

Fluid-Feed TABLE Is a Cost-Saving product of

MEAD
SPECIALTIES COMPANY
4114 N. Knox Ave. Dept. NA-115, Chicago 41, Illinois
"PATHFINDER IN AIR POWER AUTOMATION"

▲ For more details circle NED-488 L5 on enclosed inquiry slip ▲

Here's How The
WATERBURY BUCKLE CO.
Finds Good Use For This

MIGHTY-MITE
VIBRATING SCREEN

It seems there's no limit to the screening versatility of Mighty-Mite vibrating screens. This double deck Mighty-Mite separates sawdust from buckle parts after they come out of the tumbling barrel operation. Note the screen moves on tracks to take the feed from each of a total of six tumbling barrels. The finished product comes off the top deck of the Mighty-Mite into a tote box. The sawdust goes through the top deck and is caught on a solid pan lower deck to be discharged off the front of the screen into a second tote box.

MADE IN SINGLE AND DOUBLE DECK MODELS TO HANDLE UP TO 15 T.P.H. SIZES 1½'x4' to 2'x8' • WIRE CLOTH OPENINGS TO MEET ANY REQUIREMENT

Remember . . . WHEN THE LOAD IS LIGHT SCREEN IT RIGHT WITH MIGHTY-MITE

GET THE LABOR SAVING FACTS NOW! • SEND FOR NEW LITERATURE

SCREEN EQUIPMENT CO., INC. BUFFALO 25, N. Y.
One of America's Largest Makers of Vibrating Screens Exclusively

▲ For more details circle NED-483 L5 on enclosed inquiry slip ▲

DUST CONTROL PROBLEM?

Here's why a SLY filter can solve it best!

FREE CATALOG TELLS WHY
Write today for your copy of the latest Sly Dust Filter Catalog.

Select the exact type and size Sly Dust Filter for your particular dust control problem and enjoy improved working conditions (and, in turn, greater worker efficiency), better community relations, and reclamation of useful dust.

Only Sly offers such a complete range: from systems capable of collecting at multiple points to compact unit filters which collect dust from individual machines or a small group of sources. There are Sly Filters for intermittent or for continuous operations (Dynaclone).

All offer important advantages in greater filtering capacity, easier bag replacement, automatic control, low-cost operation. All are expertly designed and manufactured by Sly — the pioneer (since 1874) in dust filter equipment and the original patentee of the cloth-type filter.

Sly Replacement Bags assure continuing peak performance: excellent filtering, low resistance to air flow, minimum stretch, maximum strength. Made of high-grade cloth with 104 x 68 thread count per square inch . . . have strong, dust-tight seams . . . are rigidly inspected.

No matter what your dust problem, there's a Sly Filter to solve it. Write for further information.

THE W. W. SLY MANUFACTURING CO.
4748 TRAIN AVENUE • CLEVELAND 1, OHIO

▲ For more details circle NED-489 L5 on enclosed inquiry slip ▲

How automatic is your plant?

PARAGON TIME SWITCHES

give you planned ON-OFF control in

seconds . . . . . minutes

Preset interval timers with 5-sec. to 30-min. graduations, 5-min. to 20-hour range.

Cycle repeaters with ½-min. to 60-min. graduations, 10-sec. to 24-hour range.

hours . . . days or weeks

24-hour On-Off switches with up to 16 operations per day.

7-day calendar dial with individual daily settings, Sunday and holiday cut-off.

Mr. Engineer: Why depend on pushbuttons and manual control that cause production slowdowns when the job can be *dependably, automatically* and *economically* controlled by Paragon Time controls? Let us recommend the type or model that will solve your specific time-control problem.

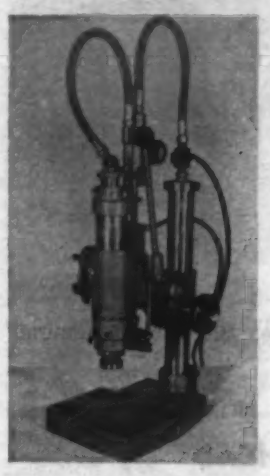
15 time controls — 71 models

Mr. Designer: Having trouble solving a time-actuated operation? Want to improve projects on the board — or in production? Then by all means check with your Paragon representative, or write for your copy of the NEW Paragon Industrial Line Catalog.

PARAGON ELECTRIC COMPANY
1626 TWELFTH STREET, TWO RIVERS, WISCONSIN

▲ For more details circle NED-490 L5 on enclosed inquiry slip ▲

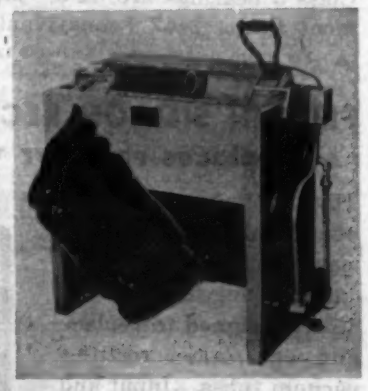
PNEUMATIC IMPACT PRESS
single-shot variable stroke hammer is adaptable to various operations



Hammer impact on the model 200-VS pneumatic impact machine is uniform, regardless of variation in thickness of work material. Operating on the principle of a single-shot air hammer, it uses constant air pressure but a variable hammer stroke. Traverse of tool to the work is controlled by a foot valve. Tool must be in contact with the work before the hammer valve can open. Machine can deliver a heavy or light impact with a work clearance traverse of as little as a few thousandths of an inch. Impact cylinder assembly can be used as part of multiple operation special machines and can be mounted at any angle. Machine can be applied to staking, crimping, flanging, riveting, assembling and impression marking. Impact range is from 0 to the equivalent of 8000 lb static or squeeze pressure. Maximum speed is 6000 cycles per hour. Made by **Heidrich-Nourse Co.**, 633 E. Third St., Los Angeles 13, Calif.

▲ For more details circle NED-491 L5 on enclosed inquiry slip ▲

MARKING MACHINES
use blown abrasive grit to mark metal, glass, plastic and ceramics



Permanent trademarks, symbols or other markings can be reproduced on glazed or polished metal, glass, plastic, fiber and ceramic surfaces by the Airgrit marking machine, available in two models. One marks delicate, precision or thin-walled parts without danger of fracture or distortion. It leaves an etched or frosted impression on the surface by blowing fine abrasive grit through relieved portions of rubber masks, made to specifications. Maximum marking area is ¾-in. diameter.

Operator controls marking blast by means of a foot switch, and can mark 500 or more small parts hourly. Rollagrit model is designed for marking cylindrical parts. Its production depends upon the size of parts and depth of marking. Part is rolled around a fixed nozzle. Maximum marking area is 3 in. long. Made by **Jas. H. Matthews & Co.**, 3943 Forbes St., Pittsburgh 13, Pa.

▲ For more details circle NED-492 L5 on enclosed inquiry slip ▲

Here's why Hiram Walker chose AVERY Self-Adhesive LABELS for their Luxury-Wrap packages...

Hiram Walker's new, personalized holiday gift packages would work as planned only if the labels could be removed and resealed.

Avery Kum-Kleen Pressure Sensitive Labels were selected for all 9 of their products because they're self adhesive, require no moistening . . . remove easily . . . reseal instantly.

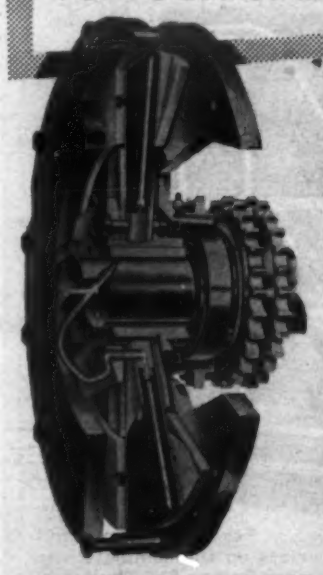
Write today for full details on Hiram Walker's tough labeling problem and other case histories. Perhaps you can use Avery Labels profitably on *your* products or packages.

AVERY LABELS — *What a difference* AVERY Kum-Kleen LABELS make!

AVERY ADHESIVE LABEL CORP., Custom Div. 102
117 Liberty St., N.Y. 6 • 608 S. Dearborn St., Chicago 5
1616 S. California Ave., Monrovia, Calif.
Offices in Other Principal Cities

▲ For more details circle NED-494 L5 on enclosed inquiry slip ▲

FRICTION AIR CLUTCHES TO YOUR SPECIFICATIONS



- **No adjustment**
- **No moving parts to wear out**
- **No slip when fully engaged**
- **Compact design... Less shaft space**
- **No drag when disengaged**

Sizes from 12" to 33¾" in diameter, single, double or triple plate with capacities ranging from 9,000 to 1,080,000 inch pounds torque. Automatic or manual engagement. Supplied in any quantity to manufacturers only.

Patented and Manufactured by
BOX 2001 DEPT. 1 **CARDWELL MFG. CO. INC.** WICHITA KANSAS

▲ For more details circle NED-495 L5 on enclosed inquiry slip ▲

ALUMINUM SCAFFOLDS

Three times as easy to handle because they weigh ⅓ as much

Aluminum scaffolds, lightweight and strong, give an extra margin of performance. They're quick and easy to set up—won't rust or rot. Aluminum scaffolds come in a great variety of types and sizes suited to your needs.

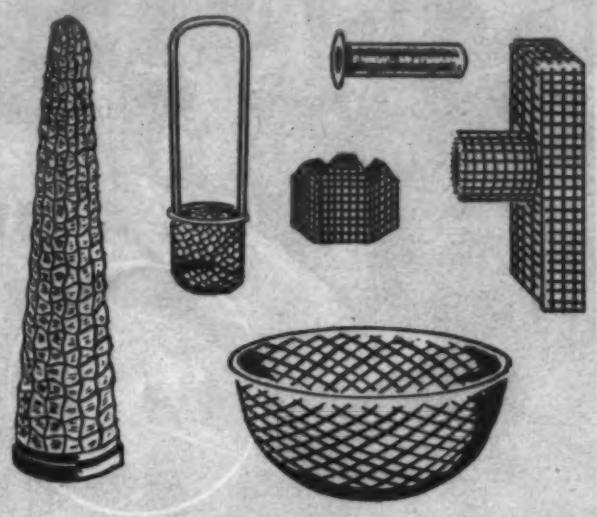
Reynolds does not manufacture aluminum scaffolds, but many makers of scaffolds do use quality Reynolds Aluminum. For their names write *Reynolds Metals Company, P. O. Box 1800-NO, Louisville 1, Ky.*

REYNOLDS ALUMINUM
MODERN DESIGN HAS ALUMINUM IN MIND

▲ For more details circle NED-493 L5 on enclosed inquiry slip ▲

WIRE-MESH PRODUCTS

for all filtering and straining applications. All meshes, all weaves, all alloys.



Send Specifications for an estimate. Department 11.

THE C. O. JELLIFF MANUFACTURING CORP. SOUTHPORT CONN

▲ For more details circle NED-496 L5 on enclosed inquiry slip ▲

Free!

PAINT INDEX

Your own guide to what kind of paint to use for every heavy-duty job. Gives you the benefit of our accumulated experience . . . 70 years of *specializing* in industrial maintenance paints. Write for your *free* copy TODAY!

TROPICAL PAINT COMPANY
1124-1292 W. 70th, Cleveland, Ohio
HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883
SUBSIDIARY OF PARKER RUST PROOF CO.

▲ For more details circle NED-497 L5 on enclosed inquiry slip ▲

Wow! This Electric Truck is about $1200 a year cheaper than Gas!

It's a fact—and user reports prove it—Lewis-Shepard Electrics save you hundreds, even thousands of dollars a year.

Just look at this Annual Cost Comparison.

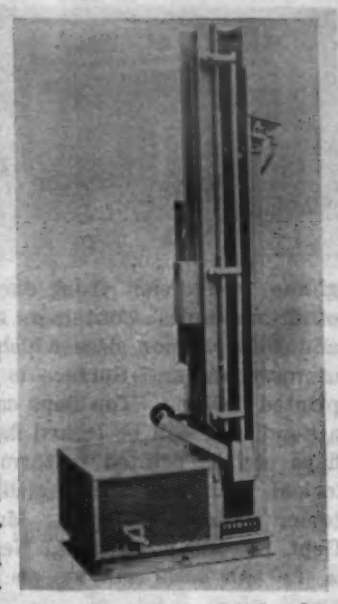
LEWIS-SHEPARD Electric Model "J"—2000 lb. cap. @ 48" load length with 130" telescopic mast		Gas Truck 2000 lb. cap. @ 48" load length with 130" telescopic mast
$480	Depreciation	$750
290	Maintenance Labor and Repair Parts	920
75	Power or Fuel	423
$845	TOTAL	$2,093

Send for Gas vs. Electric Cost Comparisons and Catalog No. 23.

LEWIS-SHEPARD
1711 WALNUT ST., WATERTOWN 72, MASS.

▲ For more details circle NED-498 L5 on enclosed inquiry slip ▲

ELEVATING CONVEYOR is a parts transfer unit

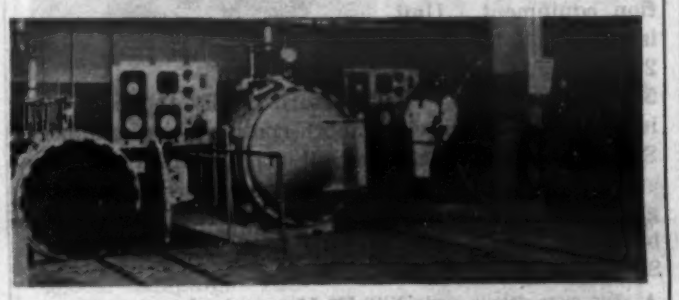


Latest Feedall series 4500 elevating conveyor is designed to transfer parts from one machine to another. It accepts parts from discharge chute of first machine, elevates and synchronizes them for delivery to next machine. Conveyor operates at delivery rate commensurate with fixed speed of both machines. It will handle cylindrical parts up to 3½-in. diameter and 1½-in. thick. Power is furnished by ¼-hp 220/440-v motor through variable speed drive. Unit can be modified to meet individual requirements. Made by **Feedall, Inc.,** Dept. ND, 38399 Pelton Rd., Willoughby, O.

▲ For more details circle NED-499 L5 on enclosed inquiry slip ▲

PRESSURE & VACUUM DOOR for processing vessels can be locked and unlocked rapidly

Double-acting hydraulic cylinders lock and unlock this quick-opening safety door for pressure and vacuum vessels. Operating time is 5 seconds. Door makes



use of a rotating locking ring and tapered wedges to assure a tight seal. Rubber gasket is used for temperatures under 275° F and a C-129 Kearsarge lute coil asbestos gasket for high temperatures. A safety valve must be opened before the door can be unlocked, assuring zero pressure in the vessel.

Doors have a 24-in. shell extension for butt welding. They are offered with left or right hand hinging and are available for vertical vessels that are counterweighted or hydraulically operated. Offered in full range of sizes, door assemblies are butt welded to any pressure vessel by the fabricator. Made by **Anchor Pressure Doors, Inc.,** 1674-A Kenmore Ave., Buffalo 23, N. Y.

▲ For more details circle NED-500 L5 on enclosed inquiry slip ▲

May We Serve You?

You will find our experience in WHEEL IMPROVEMENT a treasure store for you in your search for MOBILITY at its BEST. We offer you—

DESIGN of WHEELS and HUBS
DESIGN of SPINDLES and AXLES
SELECTION of Adequate BEARINGS
SELECTION of Suitable Closure SEALS
SELECTION of Sizes, Types, Rubber TIRES

—in ONE Engineered Package

Our PACKAGE PLAN can save you Research, Development, Tooling Costs. We Invite Your Inquiries.

INTEGRATED ENGINEERING — WHEEL BUILDERS for AGRICULTURE & INDUSTRY — Since 1888

FRENCH & HECHT
DIVISION
KELSEY-HAYES WHEEL COMPANY
DAVENPORT, IOWA

▲ For more details circle NED-501 L5 on enclosed inquiry slip ▲

USSSCO's **new** *all Plastic* SAF-I-SPEC

2 sizes Large or Small for men and women

new styling assures wearer acceptance
new design Acetate frames provide greater strength
new light-weight for comfort (new SAF-I-SPECS weigh less than one ounce)
new colors in charcoal and burgundy

Ophthalmic type temples . . . strong rugged brow-bar . nickel steel hinges . . . velvet soft nose piece . . . lens locks in place securely easily removed without tools . . . meets Federal specifications.

UNITED STATES SAFETY SERVICE CO.
KANSAS CITY 6, MISSOURI DIV. E-11
BRANCHES IN PRINCIPAL INDUSTRIAL CITIES

▲ For more details circle NED-502 L5 on enclosed inquiry slip ▲

SPEED HEAVY LOADS *from one floor level to another*

ON THE LEVEL

You eliminate dangerous ramps and inclines . . . reduce breakage and accidents . . . save wasted labor motion . . . when a Globe Ramp Eliminator is on the job.

Installed quickly indoors or out. No major building changes. Standard components insure immediate shipment.

Sturdy hydraulic cylinder positions platform flush with lower or upper level. Maximum rise: 58". Powered by air-oil or Globe Oil Pump.

Write for complete data. Globe Hoist Company, East Mermaid Lane at Queen Street, Philadelphia 18, Penna.

GLOBE RAMP ELIMINATOR
PLANTS: DES MOINES—PHILADELPHIA—LONG BEACH, CAL.

▲ For more details circle NED-503 L5 on enclosed inquiry slip ▲

Eye

Each year more and more companies use super-slow-motion movies (up to 3200 pictures a second) to solve design, production, and maintenance problems involving motion too fast for the human eye to follow. Some even use such movies as a sales tool.

Kodak has just introduced a new film for this work, far more sensitive than any hitherto available. It is already contributing heavily to the achievements of specialists in the use of high speed movie cameras.

But there is one high speed camera on the market so simple that a man can use it successfully without taking time out to become a specialist. It is called, simply, the Kodak High Speed Camera. For full details about it, write *Graphic Reproduction Division . . .*

EASTMAN KODAK COMPANY, Rochester 4, N. Y.

The Kodak HIGH SPEED Camera

Kodak

▲ For more details circle NED-504 L5 on enclosed inquiry slip ▲

EVERY ENGINEER

will want a copy of this new BULLETIN

It's easy to get the right answer for even your most special *flexible piping jobs* when you use this new engineering catalog on BARCO SWIVEL JOINTS. It is complete with pictures and diagrams showing correct application and contains all specification data for *improved* Barco Swivel Joints:

- Leakproof! Perfect Sealing—Hot or Cold.
- No Binding, Low Torque! Trouble-free.
- Self-Aligning! Simplifies Installation.

Send for a copy of new Catalog No. 265A and complete information. BARCO MANUFACTURING CO., 530M Hough St., Barrington, Illinois.

BARCO LEAKPROOF SWIVEL JOINTS

▲ For more details circle NED-505 L5 on enclosed inquiry slip ▲

INDUSTRIAL MAGNIFIERS

24-page booklet tells how to select and use them

Copy will be sent you on request. Ask for "Industrial Magnifiers," Booklet I-67.

Here is what it tells you:

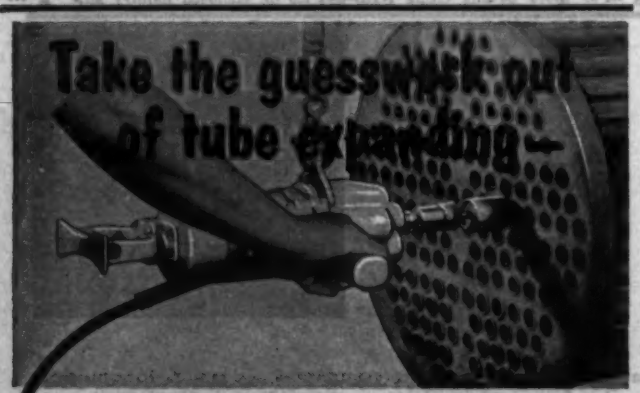
- How a magnifier works
- What to look for in selecting one
- Why a good lens is important
- What is meant by a "corrected" lens
- Magnification vs. field of view
- How to hold a magnifier

The booklet presents a selector chart on Industrial magnifiers from 2X to 20X, accompanied by a selector index. It also has catalog descriptions on dozens of Industrial magnifiers from pocket type to stand-mounted units.

For speedy inquiry action, write this advertisement number on NED's Special Inquiry slip, pages 8 and 104.

BAUSCH & LOMB OPTICAL CO.
51647 Bausch Street Rochester 2, N. Y.

▲ For more details circle NED-506 L5 on enclosed inquiry slip ▲



ELLIOTT ELECTRIC CONTROL

Get tight, uniform tube joints everytime with the new Elliott Electric Control. It's a torque-limiting device that automatically balances outside voltage variables without the need of a separate voltage regulator. The compact, steel-case-protected Elliott Control can be used with any standard tapping motor. Get full details in Bulletin Y-40. Write Elliott Company, Lagonda Division, Springfield, Ohio.

Y5-7

ELLIOTT Company

STEAM TURBINES • MOTORS • GENERATORS • DEAERATING HEATERS • ENGINES • COMPRESSORS • CENTRIFUGAL COMPRESSORS • TURBOCHARGERS • TUBE CLEANERS • STRAINERS

▲ For more details circle NED-507 L5 on enclosed inquiry slip ▲

SHIPPING & CARRYING CASES are convertible cardboard units

Novel construction of Smarty Pak one-piece die-cut corrugated containers permits their use as shipping containers, mailers or as carrying cases with handles. Since flaps lock together without gluing, conversion from one type container to another is simple. Containers are made in 14-oz Junior and 16-oz Senior sizes which will carry 25 to 30 lb of merchandise. Surface is adaptable to variety of printed designs. Top flaps can be assembled to form a handle, or can be locked flat for shipping. Bottom flaps can be printed to form an address label when locked. An advertising medium is afforded by customer reuse possibilities. Made by **Robert Gair Co.**, Dept. 86, 155 E. 44th St., New York 17, N. Y.

▲ For more details circle NED-508 L5 on enclosed inquiry slip ▲

AIR-COOLED ENGINE for maintenance equipment, pumps

Typical applications for model CCK two-cylinder, four-cycle air-cooled gasoline engine include railway maintenance equipment, refrigeration units, pumps, air-compressors and construction equipment. Unit is rated 12.9 hp at 2700 rpm and has 5.5:1 compression ratio. Horizontally-opposed cylinder design assures smooth-running performance. Standard accessories are pull rope, muffler and instruction manual; optionals include Readi-pull starter, gas-gasoline carburetor and mounted fuel tank. Made by **D. W. Onan & Sons Inc.**, 2516 University Ave. S. E., Minneapolis 14, Minn.

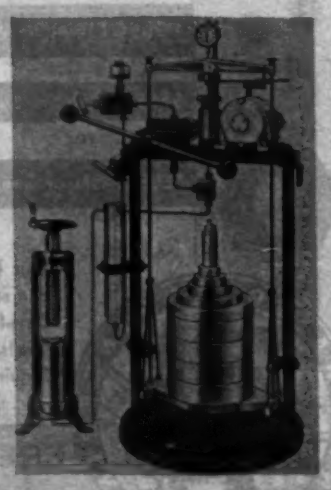
▲ For more details circle NED-509 L5 on enclosed inquiry slip ▲

EIGHT-SHEET COLLATOR portable table top machine

One operator can assemble duplicated sheets into sets quickly with this portable table top collator. It accommodates eight sheets and requires 16 x 29 in. of desk space. Hand lever, which can be located on either right or left side of the unit, controls the collating cycle. Top sheet of each stock is pushed out by the feed finger of the machine, then is grasped and placed in a gathering tray below the unit. All papers pass before the operator for inspection, eliminating the possibility of blanks or misprints slipping through. Made by **Thomas Collators Inc.**, Dept. M, 50 Church St., New York 7, N. Y.

▲ For more details circle NED-510 L5 on enclosed inquiry slip ▲

STRAIN GAGE CALIBRATOR measures loads to 200,000 lb



Precise calibration of strain gages, load cells, proving rings and similar measuring devices is possible with the Aminco strain gage calibrator. Simple in principle and construction, the virtually frictionless calibrator measures total loads to 200,000 lb. It consists of a thrust load generator and a pressure balance connected by means of high pressure tubing. Device is self-contained and self-lubricated. Made by **American Instrument Co.**, 8010 Georgia Ave., Silver Spring, Md.

▲ For more details circle NED-511 L5 on enclosed inquiry slip ▲

GRINDING MACHINE COOLANT CLARIFICATION

*The Leland Electric Company—Division of American Machine & Foundry Company, Dayton, Ohio—is a leading manufacturer of electric motors.

A SUBSIDIARY OF HOUDAILLE-HERSHE
405 Wabash
Lebanon,

▲ For more details circle NED-512 L

Union Metal Boxes, Skids a
More Plus Features Than a Ca

UNION Metal Material Handling containers have proved their worth in thousands of applications. Only Union Metal offers "square" box corners for increased capacity and the patented triangular bead top flange for stronger box construction and safer tiering; double-corrugated, one-piece construction of skid platforms; reversible pallets with center support channels and *no* sharp edges. *Every* Union Metal container undergoes an extensive cleaning, conditioning and painting process to help withstand the roughest, toughest usage, longer.

Make sure your file contains complete data. Write for illustrated literature on industry's broadest line of Material Handling Equipment. Address The Union Metal Manufacturing Company, Canton 5, Ohio.

From the smallest shop boxes to huge production positioning hoppers.

UNION METAL
Material Handling Equipmen

▲ For more details circle NED-513 L

It's the *installed* bearing that pays off (—or
That's where the sound judgment and knowledge of be
of an *Authorized* SKF Distributor comes in. You can be
on the savings from increased bearing service life and
operating performance that come from putting...
the right bearing in the right place.

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.,
manufacturers of SKF *and* HESS-BRIGHT® *bearings.*

▲ For more details circle NED-514

Houdaille Magnetic Separators
VE $2230 ANNUALLY
for Leland Electric Company*

● Coolant contamination is no longer a problem in Leland Electric's armature shaft grinding department.

Five Houdaille Magnetic Separators—mounted on grinder sumps—provide machines with a constant supply of clean coolant. Separator shown at left removes 62 pounds of ferrous metal chips and sludge daily.

Annual savings in coolant and maintenance costs total $2,230. Other benefits include longer wheel life, better product finish, more sanitary working conditions.

Write for Equipment Bulletin 601 and 4-page Leland case history.

HOUDAILLE-HERSHEY CORP.
405 Wabash Avenue
Lebanon, Indiana

of Indiana
HOUDAILLE-HERSHEY OF INDIANA, INC.
FILTRATION DIVISION

▲ For more details circle NED-512 L5 on enclosed inquiry slip ▲

kids and Pallets...
n a Cat Has Lives

ed
x
hoppers.
TAL
ipment

▲ For more details circle NED-513 L5 on enclosed inquiry slip ▲

s off (—or doesn't).
wledge of bearings
. You can bank
vice life and peak
ting...

7834

SKF®
BALL AND ROLLER BEARINGS

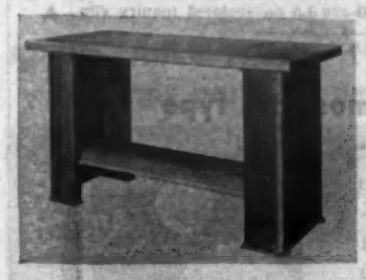
▲ For more details circle NED-514 L5 on enclosed inquiry slip ▲

BARREL FINISHER
bench model has 1-gal volume

Despite its 1-gal size, the Mini-Tumbler barrel finisher is built to withstand production tumbling of small parts. Barrel may be of either open or closed type, both of which are vinyl plastic coated. Power is furnished by a 1/12-hp split phase, 110 v, 60 cycle ac motor. The 25-lb unit can be used in laboratory, foundry, plating or screw machine shop. Made by **Rampe Mfg. Co.**, 14901 Woodworth Ave., Cleveland 10, O.

▲ For more details circle NED-515 L5 on enclosed inquiry slip ▲

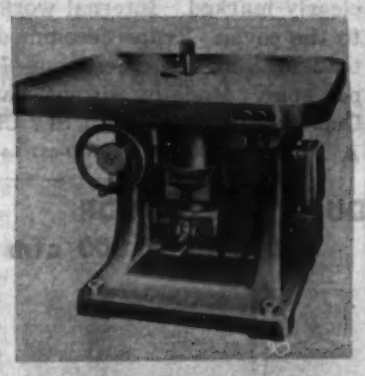
WORKBENCH PEDESTALS
rounded ends are 31 in. high



Workbenches from 30 in. to 6 ft in length can be built with these steel end pedestals. They have rounded corners, are made of 18-gage steel, stand 31 in. high and are 18 in. wide. Wooden top up to 24 in. wide and within above length limits can be mounted on a pair of ends. Similar 26-in. high ends are available for building utility tables. Made by **Hoffman Iron & Steel Co.**, Box 248-D, Vienna, O.

▲ For more details circle NED-516 L5 on enclosed inquiry slip ▲

PRODUCTION SHAPER
has up to 15,000-rpm spindle speed



Tapered detachable spindles permit quick head changes on S-10 woodworking shapers designed for high speed shaping, rabbeting, grooving and routing. Taper feature assures accurate seating and true running of spindle. Model VBD provides spindle speeds from 6000 to 7000 rpm, while speeds from 7500 to 15,000 rpm are available in model FVD. Heavy table has built-in dust chute and surface-ground top. Instant reversal of spindle without danger of it coming loose is possible. Accidental reversal of spindle, however, is impossible. Many attachments and extra equipment are available with S-10 shapers. Made by **Dependable Machine Co.**, 200 High Point Rd., Greensboro, N. C.

▲ For more details circle NED-517 L5 on enclosed inquiry slip ▲

Handle Heavy Materials
Easily • Safely • Quickly • with
RUGER CRANES

These Ruger Hydraulic Truck-mounted cranes will move anything you can hang on a hook — always a one man crane operation. Capacities from ½ to 2 tons.

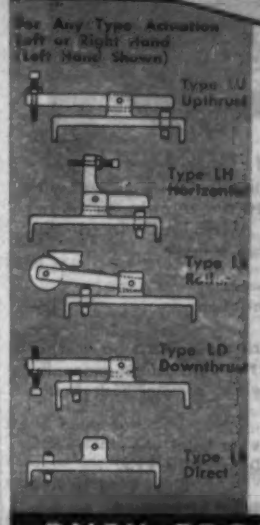
SUBSTITUTE FOR AN ELEPHANT
RUGER CRANES

619 West Fourth St.
UHRICHSVILLE, OHIO

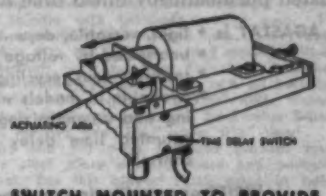
SEND FOR 1955 CATALOG
Completely illustrated with specifications for each model. Mobile Floor cranes also available. Capacities ½ to 3 tons. Write now for your copy.

▲ For more details circle NED-518 L5 on enclosed inquiry slip ▲

NEW CYLINDER TIME DELAY CONTROL SWITCH
INCREASES APPLICATION . . . WIDENS USE OF CYLINDER POWER



Pneu-Trol Time Delay Switches provide independent hydraulically controlled adjustable time dwell between ¼ and 60 seconds in 20 to 1 ratios. Readily mounted on machine for cylinder dwell at a positive stop. Compactly designed—a simplified low cost answer to electrical time dwell control of any air or hydraulically operated machine movement such as press work, burnishing, coating, quenching, metal-cutting, etc. Ideal for automatic feeders. Dimensions: 4⅛" wide; 2⅝" high; 1-7/16" deep. Overall height 4⅛".

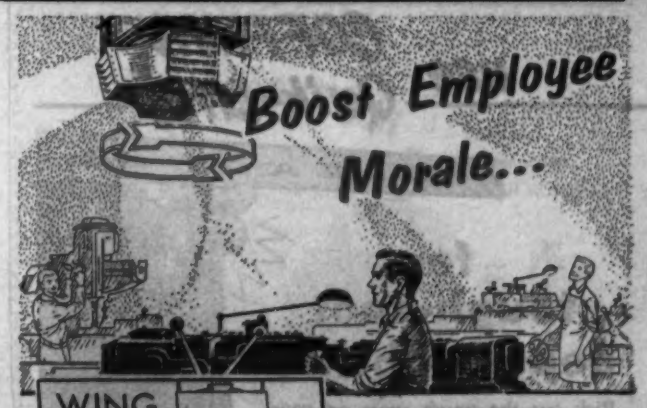


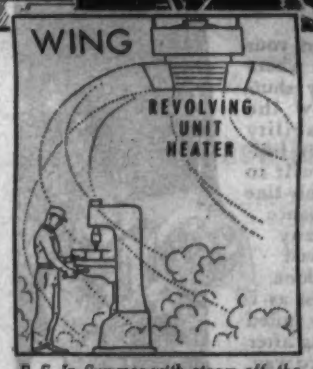
SWITCH MOUNTED TO PROVIDE DWELL AT END OF POWER STROKE

Write for descriptive literature and complete details.

PNEU-TROL DEVICES, INC.
1432 N. Keating Ave. Chicago 51, Illinois

▲ For more details circle NED-519 L5 on enclosed inquiry slip ▲





P. S. In Summer with steam off, the revolving discharge outlets produce a pleasant cooling effect . . .

WITH THE PLEASANT, INVIGORATING HEAT FROM
WING REVOLVING UNIT HEATERS

Wing Revolving Heaters keep the heated air in constant gentle motion, with no steady sickening hot blasts —one reason why many firms are adopting Wing Revolving Heaters as "morale boosters". Employees work in pleasant, comfortable surroundings. Being comfortable they are more productive. Write for Bulletin HR-6A.

L. J. Wing Mfg. Co.
165 Vreeland Hills Road, Linden, N. J.
Factories: Linden, N. J. & Montreal, Can.
In Europe: WANSON, Rozas-Hoed, Brussels, Belgium

▲ For more details circle NED-520 L5 on enclosed inquiry slip ▲

FINISH
METAL PARTS
at low cost

Amazing results are being obtained in finishing metal parts by using Exolon Tumbling Abrasive — an electrically fused aluminum oxide.

This Exolon Abrasive is pretumbled to remove sharp projections and supplied in uniform sizes from 2" diameter down. It is chemically inert and breaks down very slowly. Result — a more uniform metal finishing job achieved quickly and duplicated exactly time after time.

Write today.

Gentlemen: Please send
☐ Your Folder, EXOLON BARREL FINISHING ABRASIVE.
☐ Your Recommendations for the following finishing problem _____
Name _____
Address _____
Company _____
City _____

The EXOLON Company
986 East Niagara Street Tonawanda, New York

▲ For more details circle NED-521 L5 on enclosed inquiry slip ▲

Time delays in automation circuits

Time / Delay / Relay

When automatic machinery and circuits must be timed with repetitive accuracy (from 0.1 second to ten minutes or more) you'll find a sure, reliable answer in AGASTAT electrically-actuated pneumatically-timed time delay relays.

The AGASTAT is
- light, versatile, dependable.
- unaffected by voltage variations.
- instantaneous recycling.
- available in models which offer delays on energizing and de-energizing, two-step delays, manually-actuated time delay switch, remote push button control.

WRITE our application engineers for help with your timing problem. Address Dept. A23-115.

AGA DIVISION

Elastic Stop Nut Corporation of America

1027 Newark Avenue, Elizabeth, New Jersey
Pioneers in pneumatic timing.

▲ For more details circle NED-523 L5 on enclosed inquiry slip ▲

COFFING use Quik-Lifts

for tough-spot dependability

Pick out the tough spots on your production line... key spots where a breakdown means a costly shutdown. Then find out how the Coffing Quik-Lift's dependability really pays off. This hoist is a full-fledged production unit, built to stand up under hard assembly-line use. Its "tough spot" performance will soon repay its cost many times over in down time saved. So do as many others have done. Start the Quik-Lift on a hoist assignment where others have failed — then standardize on Coffing after it has proved its value the hard way.

For more information on Quik-Lift Electric Hoists, write for Bulletin X-E.

SOLD BY DISTRIBUTORS EVERYWHERE

Coffing Hoist Division
Duff-Norton Company
Danville, Illinois

Hoist-Alls • Safety-Pull Ratchet Lever Hoists • Mighty-Midget Pullers • Spur-Gear Hoists • Differential Chain Hoists • Load Binders • I-Beam Trolleys.

▲ For more details circle NED-524 L5 on enclosed inquiry slip ▲

NORGREN SPRAY-LUBE SYSTEM
as applied by SQUARE D CO.
to multiple tapping operation

speeds production 30%

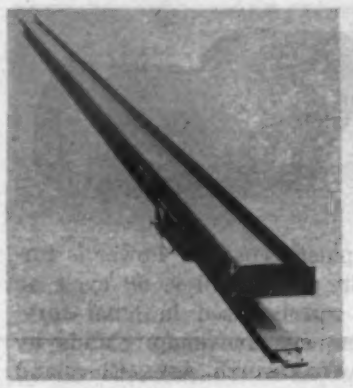
and in addition:

- eliminates time and labor formerly required for draining and wiping tapped parts
- relieves one man for more productive work
- elimination of flood system greatly improved working conditions
- substantial saving in lubricant.

For complete data on this Norgren Spray-Lube application write C. A. Norgren Co., 3405 So. Elati, Englewood, Colo.

▲ For more details circle NED-525 L5 on enclosed inquiry slip ▲

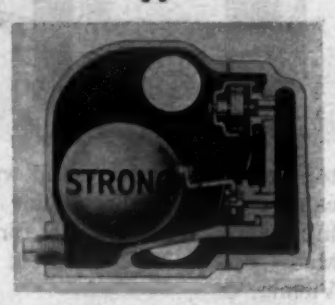
VIBRATING CONVEYOR
built in 12-ft sections



Compact in design, easy to install and quiet in operation, the LMV lightweight mechanical vibrating conveyor can move various materials of good conveyability at rates up to 45 tons per hour. It is built in 12-ft sections and is available in 5, 8, 12, 18 and 24-in. widths. Sections are easily cut to any odd length. Height from floor is 14 in. maximum. Drive, eccentric and bearing are totally enclosed and immersed in oil to prevent entry of foreign matter. Made by **Jeffrey Mfg. Co.**, 852-99 N. Fourth St., Columbus 16, O.

▲ For more details circle NED-526 L5 on enclosed inquiry slip ▲

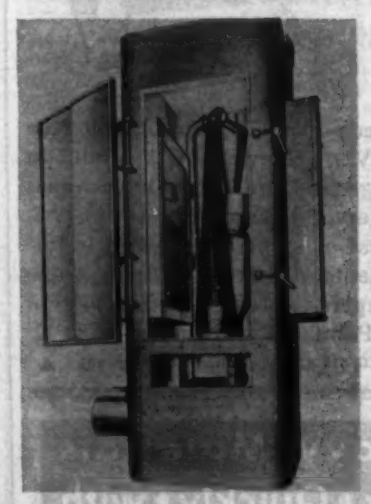
STEAM TRAPS
float and thermostatic type



Rapid air and condensate removal in low pressure steam systems is a feature of line of float and thermostatic steam traps which makes possible fast heating and efficient operation at pressures up to 15 psi. Feature also prevents trap and connecting piping from becoming air-bound. Dual operating functions are performed by an expanding thermal element and a ball float mechanism. All pipe connections are on the body, with inlets and outlets clearly marked. Internal working parts are attached to the cover. Traps accommodate pipe sizes from ¾ to 2 in. and capacities from 70 to 5750 lb of water per hour. Made by **Strong, Carlisle & Hammond Co.**, Dept. N, 1392 W. Third St., Cleveland 13, O.

▲ For more details circle NED-527 L5 on enclosed inquiry slip ▲

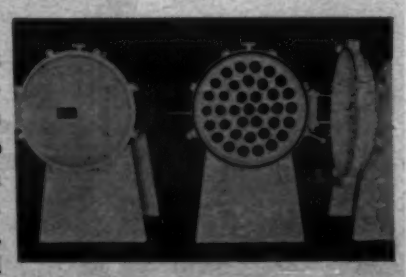
DUST COLLECTOR
1000 to 10,000 cfm capacities



Packaged Aerodyne dust collector consists of louvered cone and one or more fiber filter packs in series. Cone removes coarse and medium sized particles from the air or gas, while the filter packs remove the submicron particles and many undesirable condensable elements. The type G. W. F. unit is available in free air capacities from 1000 to 10,000 cfm. Power requirements range from 1½ to 15 hp. Dust-free air can be used over again or vented to the outside. Made by **Green Fuel Economizer Co.**, Beacon, N. Y.

▲ For more details circle NED-528 L5 on enclosed inquiry slip ▲

TUBULAR FILTERS
in 1 to 36-tube sizes



Line of tubular filters for intermittent or continuous operation includes sizes with from 1 to 36 tubes and with filtration areas from 2.4 to 26.4 sq ft. Units can be used as polishing filters for corrosive or noncorrosive liquids containing low percentage of solids; as trap filters connected in series with other clarification equipment; or for filtering run-off when cleaning or servicing larger filters. Fluid moves through inside of tube and passes out perforated wall through filter paper. Filter is cleaned by replacing used liners. Solids are removed in dry form. Units can be ordered in various materials or lined for corrosive fluids. Made by **Industrial Filter & Pump Co.**, 5904 Ogden Ave., Chicago 50, Ill.

▲ For more details circle NED-529 L5 on enclosed inquiry slip ▲

● FOR HIGH STRENGTH AND EXCEPTIONAL PERFORMANCE these alloy iron mandrels have been *centrifugally cast* by Shenango. The Shenango centrifugal process always assures superior physical properties plus freedom from blow holes, sand inclusions and other hidden defects. Next time *you* need symmetrical parts or assemblies, large or small, rough or finished, ferrous or non-ferrous, try Shenango. You'll save time and dollars . . . avoid trouble! Write for descriptive bulletins to: Shenango-Penn Mold Company, Centrifugal Castings Division, Dover, Ohio (Executive Offices: Pittsburgh, Pa.).

SHENANGO CENTRIFUGAL CASTINGS

COPPER, TIN, LEAD, ZINC BRONZES • MONEL METAL
ALUMINUM AND MANGANESE BRONZES • NI-RESIST • MEEHANITE METAL

▲ For more details circle NED-530 L5 on enclosed inquiry slip ▲

TYGON "ATD" Hot Spray PAINT

TWO COATS DO THE WORK OF FIVE

Yes, two coats of Tygon Hot Spray Paint actually build a thicker paint film than five coats of conventional paint! Not only a thicker paint film but a better paint film — with protection lasting up to twice as long.

Tygon Hot Spray Paint can save as much as 30% in paint labor costs. Saves on material costs, too. No expensive thinners — heat does the thinning. Hot spraying cuts wasteful overspray — stops wet spray drift.

Write Today for Bulletin ATD-34
Address Dept NED 1155

U. S. STONEWARE CO.
PLASTICS & SYNTHETICS DIVISION
AKRON 9, OHIO

A ADHESION
T THICKNESS
D DENSITY

58E

▲ For more details circle NED-531 L5 on enclosed inquiry slip ▲

CUSHIONED STOP... FOR ACCURATE INDEX

MODEL 1405 INDEX TABLE

HERE'S YOUR ANSWER, if accuracy and dependability are important to you. Cushioned stop eases work to position. Locking cylinder stops the table "on the money" and holds it until released by locking dog. Changes in loads, diameters or speeds are no problem either, since both speed and cushion are adjustable. Top plate is 15" in diameter but the rugged mechanism will handle much larger work loads. Table will make up to 100 indexes per minute with a 22" diameter, 200 lb. load.

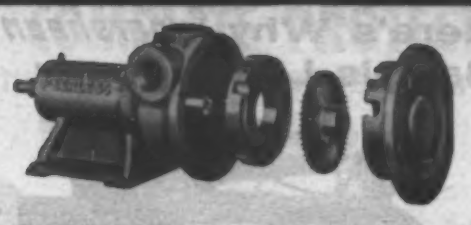
OPERATES on 60-175 lbs. pressure when equipped for air but table is available for either air or hydraulic operation, 4, 6, 8, or 12 stations are standard but others, up to 30, are made to order.

REPRESENTATIVES:
SOME TERRITORIES STILL OPEN.
WRITE FOR INFORMATION.

AIR-HYDRAULICS INCORPORATED

816 BELDEN ST • JACKSON, MICHIGAN

▲ For more details circle NED-532 L5 on enclosed inquiry slip ▲



EXPLODED VIEW shows easy accessibility to one moving part—the free-running impeller

Request Bulletin No. B-2205 for complete description and pump selection charts

VANE TYPE TURBINE PUMPS

FOR BOILER FEED & LP GAS TRANSFER

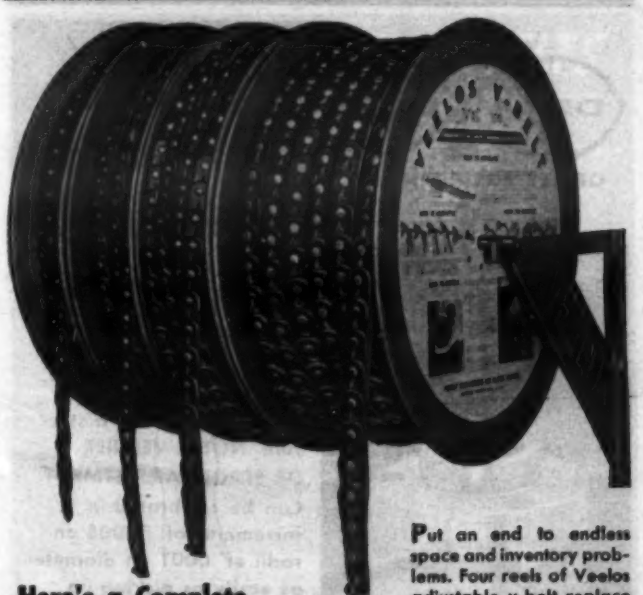
Face-Mount and Flexible-Coupled Types

For pumping hot and cold, clear and vaporous liquids Standard and self-priming models for pumping capacities up to 58 gpm and against heads up to 800 ft. Used for liquid circulating, transfer and boosting, boiler feed and condensate return service. Easy and economical to apply, operate & maintain.

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
301 West Avenue 26
Los Angeles 31, California

New York; Indianapolis; Chicago; St. Louis; Atlanta; Dallas, Plainview and Lubbock, Texas; Los Angeles, Fresno, Calif.; Phoenix; Albuquerque, New Mexico.

▲ For more details circle NED-533 L5 on enclosed inquiry slip ▲



Put an end to endless space and inventory problems. Four reels of Veelos adjustable v-belt replace up to 316 different sizes of endless belts . . . and take up a space of only 16 inches square.

Here's a Complete Veelos V-Belt Inventory in the O, A, B & C widths!

WRITE FOR A FREE COPY . . . of the Veelos Data Book. It's packed with valuable engineering data complete with illustrations. Send for your copy today.

VEELOS — LINK V-BELT

MANHEIM MANUFACTURING AND BELTING CO.
650 Manbel St., Manheim, Pa.

Adjustable To Any Length • Adaptable To Any Drive

▲ For more details circle NED-534 L5 on enclosed inquiry slip ▲

TWEETEN Marker

THE PENCIL OF 1000 USES

MARKS ON ANY SURFACE
"Wet, Dry, Frozen"

- Heavy Plastic Barrel
- Handy Pocket Clip
- Screw Top Feed

3½" Long
Life Refill
Economical

IN BLACK, BLUE, RED, GREEN, YELLOW, WHITE

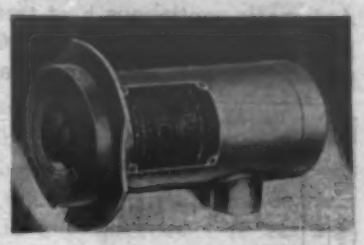
3½"

ORDER FROM YOUR SUPPLIER

TWEETEN FIBRE CO., INC.
Dept. N.E.D. 2045 West Fulton Street
Chicago 12, Ill.

▲ For more details circle NED-536 L5 on enclosed inquiry slip ▲

RADIATION PYROMETER responds to change in ½-second



Temperature of fast moving bars, billets, sheets and other items can be measured by this high speed Radiamatic radiation pyrometer. It responds to 98 per cent of any temperature change in less than ½-second. Temperature measurement is accomplished without making actual physical contact. Models are available with narrow sighting angle (20:1 ratio) for range from 800 to 1900° F and with narrow angle (20:1 ratio) or wide angle (7:1 ratio) covering temperature range from 1000 to 2600° F. Made by **Minneapolis-Honeywell Regulator Co.**, Industrial Div., Wayne & Roberts Aves., Philadelphia 44, Pa.

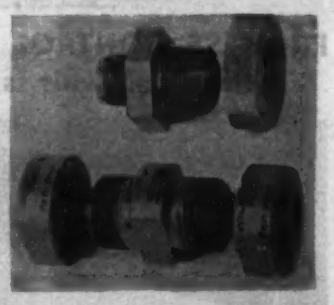
▲ For more details circle NED-530 L5 on enclosed inquiry slip ▲

ADJUSTABLE WORK HOLDER clamps parts at any angle

Welding, brazing, soldering and glueing operations can be performed in the Duo-Square adjustable work holder. Two parts are held at any angle in a vise-like grip. Precisely aligned clamping faces are adjustable from 0 through 180 degrees. Made of cast aluminum alloy the holder quickly dissipates heat and resists adherence of weld splatter. Made by **Jergens Tool Specialty Co.**, Dept. NED, 712 E. 163rd St., Cleveland 10, O.

▲ For more details circle NED-537 L5 on enclosed inquiry slip ▲

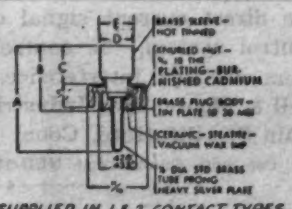
POLYVINYL CHLORIDE FITTINGS made for polyethylene pipe



Couplings and adapters for use with polyethylene pipe are injection molded from rigid unplasticized polyvinyl chloride. They resist corrosive action and will form a tight joint without setting up undue compressive stress in the polyethylene. Couplings are polyethylene-to-polyethylene shown at bottom while adapters are polyethylene-to-metal at top. They are made in ¾ and 1-in. sizes and, ultimately will be offered in pipe sizes up to 2 in. Made by **Wilmington Plastics Co.**, Box 365-G, Wilmington 99, Del.

▲ For more details circle NED-538 L5 on enclosed inquiry slip ▲

Ideal for ANTENNA CONNECTIONS PHOTO-CELL WORK MICROPHONE CONNECTIONS



SUPPLIED IN 1 & 2 CONTACT TYPES

JONES
SHIELDED TYPE
PLUGS & SOCKETS

P-101-¾

P-202-CCT

LOW LOSS PLUGS AND SOCKETS FOR HIGH FREQUENCY CONNECTIONS

For quality construction thruout, and fine finish, see diagram above.

101 Series furnished with ⅛", .290", 5/16", ⅜", or ½" ferrule for cable entrance. Knurled nut securely fastens unit together. Plugs have ceramic insulation; sockets bakelite. Assembly meets Navy specifications.

202 Series Phosphor bronze knife-switch type socket contacts engage both sides of flat plug contacts—double contact area. Plugs and sockets have molded bakelite insulation.

For full details and engineering data ask for Jones Catalog No. 20

S-101

S-202-B

HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION

▲ For more details circle NED-539 L5 on enclosed inquiry slip ▲

NEW 5300 12" CLAUSING LATHE

(1" COLLET CAPACITY)

biggest PLUS in Lathe history!

PRICES START AT $715.00 F.O.B. FACTORY

Featuring — ZERO-PRECISION BEARINGS

Held to a tolerance of .00015"—the most accurate used on any lathe of comparable size and price.

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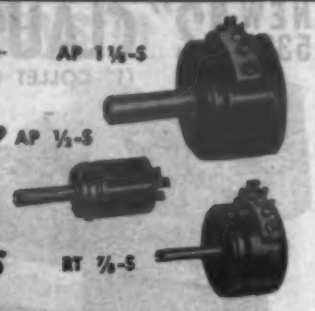

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Series AP ½-S—2 watts continuous at 80° C; resistances 10 to 20,000 ohms, 5% tolerance standard; diameter ½", depth ½", weight ¼ ounce; sealed well enough for potting.

Series RT ⅞-S—3 watts continuous at 80° C; resistances 10 to 100,000 ohms; diameter ⅞", depth ⅝", weight ½ oz.; standard linearity 2%.

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All precision-machined, with anodized aluminum bodies, line-reamed phosphor bronze bearings, centerless ground stainless steel shafts, and goldplated fork terminals. Fully sealed and fungus-proofed. Can be processed, on special order for use at 125° C. Aerohm potentiometers are individually checked for quality and performance.

"Lo-TORK" POT LT ⅞ (not shown)

For minimum-torque uses in computer, servo, and selsyn service. Stainless-steel precision ball bearings. Maximum torque is 0.01 inch-ounce. Dissipates one watt at 80° C. Resistances—100 to 100,000 ohms. Weight is only ½ ounce. Ganging to six decks; internal clamps hold ⅞" diameter. Standard linearity 0.5%; on special order 0.25%; toroidal winding allows winding angles to 360°; standard 354°.

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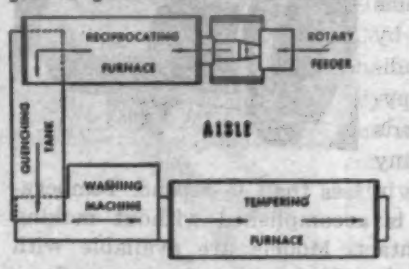

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TROUBLE LAMP
has neoprene handle, cord and cap

Series of heavy duty portable trouble lamps features cast aluminum guard, Levolier toggle switch, cord with strain relief clamp and safe side convenience outlets. Handles, cords and caps are neoprene. Either U-blade grounded, three-wire straight blade or two-wire straight blade side outlets are offered, along with two or three-wire caps. Entire series is UL-approved. Made by **Rodale Mfg. Co.**, Dept. TL, Minor St., Emmaus, Pa.

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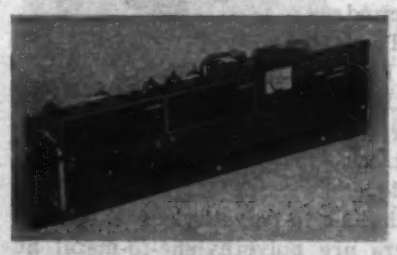
PROCESS CONTROL UNIT
electronic unit is rack mounted



Prefabricated cable harness used with this electronic process control unit to connect units in the system (indicator or recorder, control point set station and manual valve positioner) minimizes cost of panel fabrication, wiring and piping connections. It is mounted on a standard radio relay rack which gives accessibility for adjustments. Units can be mounted one above the other. Controller rack placement can be anywhere within the instrument room as there is no mechanical connection between units. Since it uses the direct current signal of the American-Microsen control system, the controller need not be shielded from electrical interference. Made by **Manning, Maxwell & Moore, Inc.**, Industrial Control Div., 250-60 E. Main St., Stratford, Conn.

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DRILLING MACHINE
drills, chamfers, taps automatically

Natco H-6 light sensitive adjustable multispindle driller and tapper is equipped with a three-position automatic fixture slide to drill, chamfer and tap holes automatically. Typical feed cycle is: position No. 1 (drill), load part, rapid traverse, feed forward, rapid reverse, index to second position; No. 2 (chamfer), rapid traverse, feed forward, rapid reverse, index to third position; No. 3 (tap), rapid traverse, feed forward, feed reverse, rapid reverse, index to position No. 1. Made by **National Automatic Tool Co.**, Dept. C, 715 S. N St., Richmond, Ind.

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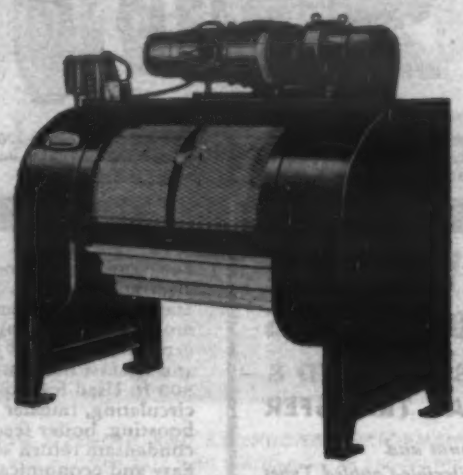
Here's Why *Supersheen* Barrels Last Longer



Supersheen Barrels are all-welded, heavily gusseted construction to provide extra strength and rigidity—and yet save power costs on operation. Drive chains and sprockets are heavy type to assure continuous performance with very minimum of maintenance. For the best equipment, compare Supersheen Barrels' important design features before you buy.

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OFFSET BORING HEAD

repeats to .0001" in 30 seconds

DEKA-BORE (and only DEKA-BORE) can be adjusted in fractions of 1/10,000" on the full diameter as easily as reading 1/16" on a steel rule. NOT A VERNIER OR SCROLL ADJUSTMENT. Can be calibrated in increments of .00005 on radii or .0001 on diameter as easily as picking up .002 on a conventional micrometer dial.

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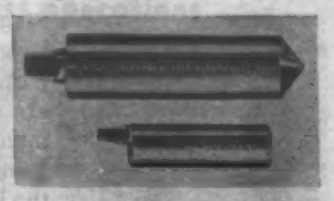
DIAMOND DRESSING TOOLS for thread grinding wheels



Diamond impregnated wheel dressing tools are available in all types of holders for thread grinding machines that grind sharp V or straight-line threads. Protruding diamond impregnated matrix offers a cutting face in any direction. It has sufficient strength to extend beyond the actual tool end shown in the cut-away illustration. Tools can be used in all classes of thread grinding, ranging from production line applications to gage, Class 5 and close tolerance work. Tools can be reconditioned by grinding with the appropriate Carborundum wheel. Made by **Diamond Products, Inc.**, 323 Prospect Ave., Elyria, O.

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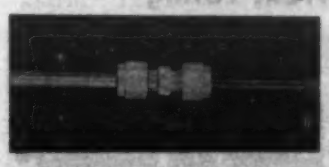
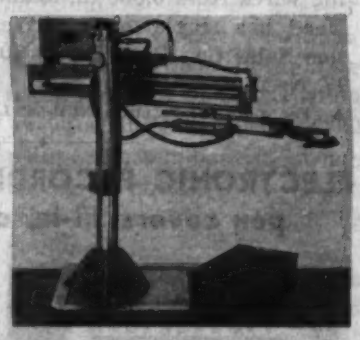
GALVANIC INSULATORS 1/16 to 1-in. pipe and tube sizes



Galvanic action which results from joining such dissimilar metals as brass, aluminum, copper and steel can be eliminated through use of Swagelok galvanic insulators. Made of Zytel polyamide resin, they are available in various shapes for 1/16 to 1-in. pipe and tube sizes. Insulators can be used at junction boxes, panel board and bulkheads. Made by **Crawford Fitting Co.**, 886 E. 140th St., Cleveland 10, O.

▲ For more details circle NED-557 L5 on enclosed inquiry slip ▲

PORTABLE PRESS UNLOADER redesigned unit has swivel feature



Swiveling action for side or back unloading is feature of this redesigned series 3000 Iron Hand portable press unloader. Entire unit is mounted on heavy steel base, on wheels, and can be rolled from press to press, as needed. It can be adjusted up or down on its vertical post to suit die height and swiveled into unloading position. Since jaw travels in straight line, small parts can be removed at high speeds. After press ram completes its down stroke, hand moves into die and grips stamping. When it has clearance, jaw lifts stamping, moves back out of die and drops stamping in a tote box. Variety of jaws is available. Made by **Sahlin Engineering Co.**, Dept. NED, Box 289, Birmingham, Mich.

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Hardness Readings in 2 seconds!

Webster PORTABLE Hardness Testers FOR NON-FERROUS METALS

TWO LOW-COST MODELS differing in sensitivity for rapidly testing hardness of aluminum, brass, copper, etc. No training required; one hand operation. Hardness readings in 2 seconds anywhere in shop. Can be correlated to standard hardness scales. Quick reading dial. Special anvil design tests all shapes: sheets, extrusions, tubing, strip stock. Capacity ¼". Simple, rugged design, easy maintenance.

MODEL B Direct hardness readings on all aluminum alloys.

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Other models available

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For Storage Racks, Assembly Lines, Shipping and Receiving Platforms

You'll get better storage, more efficient shipping and receiving with sturdy FERGUSON single and double line wheel conveyors. Why? Because these conveyors put all the convenience of wheels into package and product movement . . . eliminate unnecessary carrying and walking. That means bigger profits for you.

FERGUSON single and double line wheel conveyors are available in 10' lengths, can be used singly or in pairs, installed permanently or moved from job to job.

Write, wire or call for more details on these conveyors or our other lines of gravity and power conveyors.

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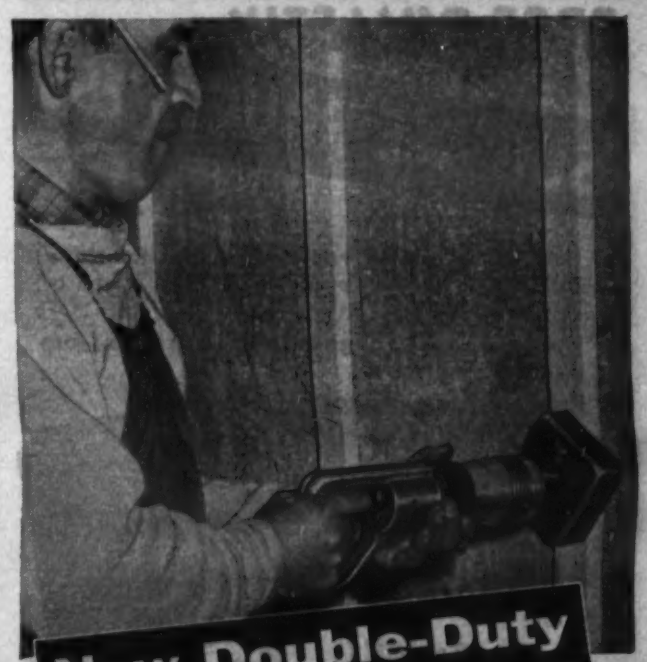

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Sets both ¼" and ⅜" studs in steel or concrete — in seconds! Light-, medium- or heavy-duty fastening, the new Model 455 Remington Stud Driver speeds the job. It sets *two* different size studs . . . up to 6 studs per minute, either size . . . and offers new possibilities in anchoring conduit clips, steel frames, wood forms and many other fixtures.

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Protect them against rust, scale, and air-line condensation with Keller Filter-Lubricators. Oil feeds through an upright wick into the air stream . . . no flooding or waste. Transparent bowls show when cleaning is needed, or light spindle oil should be added. Write for Bulletin No. 65-1.

KELLER TOOL
DIVISION OF GARDNER-DENVER
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FREE BULLETIN on SURFACE ROUGHNESS tells . . .

- How to establish roughness specifications for parts that are in production — and for parts of new design.
- How to show roughness specifications on drawings and shop prints.
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ALSO gives tips on MEASURING surface roughness in the shop—and briefly tells why most plants use the PROFILOMETER for doing this.

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Pump Motor
Totally Enclosed, Non-Ventilated
Totally Enclosed, Fan Cooled

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BROOK MOTOR CORP.
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MANUAL STARTERS for across-the-line starting

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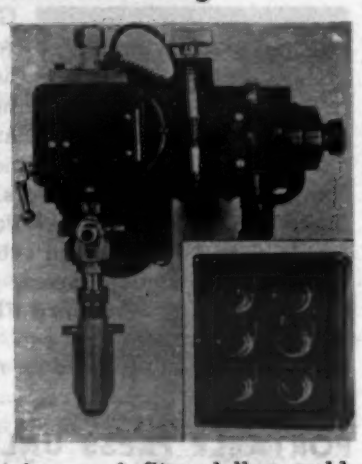
AUTOMATIC WELDING HEAD has 600-amp current rating



Simplified controls and design compactness are featured by the Aircomatic automatic welding head having continuous current rating of 600 amp. Unit is designed for applications employing the Airco inert gas consumable electrode welding method. Argon, carbon dioxide and helium shielding gases as well as steel, aluminum, bronze, stainless and Strandalloy welding wires from 0.030-in. diameter and up can be used. Head has single motor drive. Made by **Air Reduction Sales Co.**, Dept. NED, 60 E. 42nd St., New York 17, N. Y.

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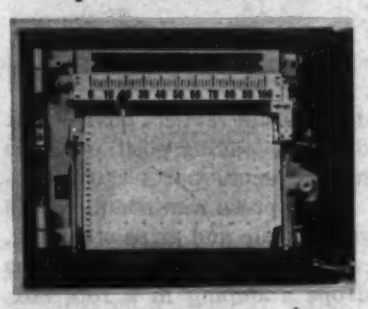
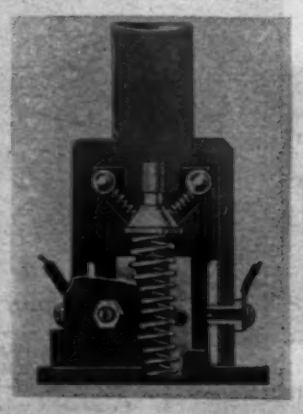
ELECTRONIC RECORDER pen covers 11-in. chart in ¼-second



This high-speed electronic strip-chart recorder requires only ¼-second for its pen to cover the full 11-in. chart width. Instrument is intended primarily for research and laboratory use where changing conditions measurable by direct current output transducers must be charted. It has plug-in construction, and all components can be replaced as complete units to facilitate range changing. Accelerated chart speeds, appropriate to the split-second pen speed, are available. Basic options are 2 ips or 4 ipm. Also available is chart drive step-up mechanism which will increase a speed of 6 iph in a 3:1 or 60:1 ratio. Made by **Minneapolis-Honeywell Regulator Co.**, Industrial Div., Wayne & Roberts Aves., Philadelphia 44, Pa.

▲ For more details circle NED-566 L5 on enclosed inquiry slip ▲

PUSHBUTTON CONTROL has five control steps



Variable feature of this pushbutton control for electrically operated equipment provides five separate control steps with suitable relay or contactor panels. Motor is started by pressing button to first step. As button is pressed through other four steps, higher speeds are obtained. It is possible to hold any one of the five speeds in either accelerating or decelerating the motor. Units can be used with either alternating or direct current circuits and can be mounted in a totally enclosed housing. Made by **Harnischfeger Corp.**, Electrical Products Div., 4628 W. National Ave., Milwaukee 46, Wis.

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REDUCE COST

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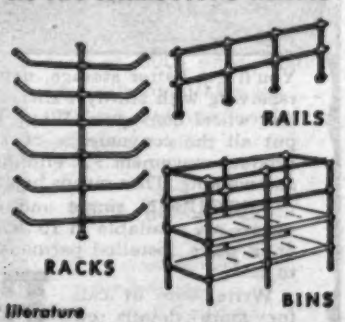

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• both machine-ground and rolled-thread types

EXCLUSIVE SAGINAW MULTIPLE CIRCUITS AND THREAD DESIGN ASSURE GREATER EFFICIENCY, DEPENDABILITY, LONGER LIFE

Safety b/b Screws save power by requiring only 1/3 as much torque as conventional Acme screws for the same amount of linear output—yet the rolled-thread types are competitive in price! Both types permit positive positioning within thousandths of an inch plus perfect synchronization. Units have been built from ⅜ TO 10 IN. DIAMETER, 1½ IN. TO 39½ FT. LONG. Saginaw Steering Gear Division of General Motors, Saginaw, Michigan. (Dept. 7P)

WRITE TODAY FOR DATA BOOK

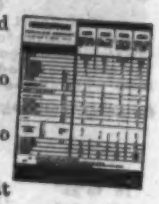
Safety b/b Screw by Saginaw

▲ For more details circle NED-570 L5 on enclosed inquiry slip ▲

take a good look at engineered ceramics

When you plan the development of a new product, or seek ways to further improve existing ones, take a good look at *engineered* ceramics in your planning. Our ceramic engineers have developed many new formulae and fabricating methods which greatly enlarge the usefulness of these amazing materials. Whether your problem involves critical or exacting electrical and mechanical properties, chances are *Frenchtown Engineered* Ceramics will provide a better answer. Check these advantages:

- MECHANICAL STRENGTH Compressive strength up to 187,000 psi.
- ABRASION RESISTANCE Demonstrated by use for sand blast nozzles.
- HEAT RESISTANCE Softening temperatures up to 1971° C.
- THERMAL CONDUCTIVITY Coefficient (c.g.s. units) up to 0.0180.
- THERMAL EXPANSION as low as 2% cumulative at 700° C.



Send for the helpful Frenchtown properties chart.

frenchtown PORCELAIN COMPANY
97 Muirhead Avenue | Trenton 9, New Jersey

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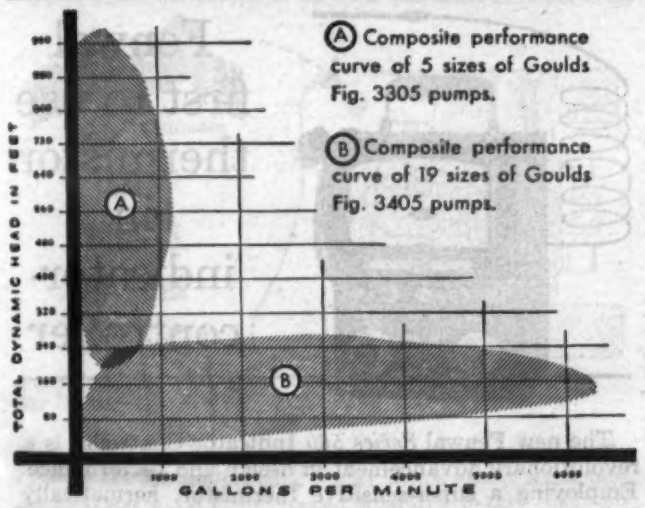


Do you need pumping capacity?—or head?—or both?

With these two groups of Goulds centrifugal pumps you can meet an extremely wide range of pumping requirements.

For volume pumping, 19 sizes of the Fig. 3405 single-stage, double-suction pump provide capacities up to 6,400 GPM, and heads to 280 ft.

For greater pressure requirements 5 sizes of the Fig. 3305 two-stage pump provide heads up to 1,000 ft., and capacities to 1,200 GPM.

Both of these groups of pumps have important new design and construction features that insure efficient operation and long life. Yet, because so many of their parts are interchangeable, *you can cut your parts inventory in two—or better.* For example, you need only 3 different shafts for all 24 sizes of pumps in both groups.

Goulds PUMPS INC. Seneca Falls, New York

Just write for Bulletin 721.6 about the Fig. 3405 single-stage pumps, and Bulletin 722.6 about the Fig. 3305 two-stage pumps. We'll be glad to send you copies of both.

Atlanta • Boston • Chicago • Houston • New York • Philadelphia • Pittsburgh • Tulsa

▲ For more details circle NED-572 L5 on enclosed inquiry slip ▲

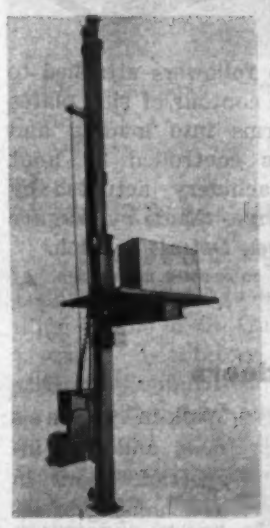
ELECTRONIC SCANNING INSTRUMENT checks and controls up to 25 points in process operations

This Fielden electronic scanner is capable of monitoring up to 25 production points or variables such as temperature, level, flow and pressure in any industrial or laboratory process operation. Control points can be set in a matter of minutes by untrained personnel, using a bank of miniaturized slide wires. Individual changes in settings can be made on the same slide wires by simply resetting a small knob. All set points can be viewed and compared at a glance.

Scanner will check processes at speed of either one point or five points a second. Built-in "memory" enables users to by-pass steps in the process that are not operating. In event of breakdown of either a component or sensing element, scanner will sound an alarm. Twenty-five sets of indicating lights on face of instrument show step under control and whether process is functioning properly. Made by **Robertshaw-Fulton Controls Co.**, Fielden Instrument Div., 2902 N. Fourth St., Philadelphia 33, Pa.

▲ For more details circle NED-574 L5 on enclosed inquiry slip ▲

PLATFORM HOIST operates on vertical monorail that builds upon itself to any height



Two men can erect this platform hoist in 3 hours. Unit operates on rigid vertical monorail that builds upon itself to any desired height. It can be disassembled quickly into units of 6 ft or less for moving to another location. Hoist is practical for hauling materials aloft on construction jobs and finds use in industrial plants as a semipermanent materials handling unit which can be mounted outside a building.

When erecting the column, a steel supporting pin is placed underneath carriage to uphold platform while cable and top sheave are removed so that new section can be fastened in place. Stabilizer brackets are added every 18 ft. Steel cable passes over pulley on top to raise and lower platform. It is operated by 5-hp electric motor or gasoline engine. Load capacity is 1 ton. Platform safety lock as well as emergency and limit switches are provided. Made by **Hawkeye Engineering Co.**, 248 Lincoln Ave., Syracuse 4, N. Y.

▲ For more details circle NED-575 L5 on enclosed inquiry slip ▲

A REVOLUTIONARY DEVELOPMENT

VIBRA-FREE* CARBIDE TIPPED MEYCO SAWS

You will be interested in this radically new development IF your carbide tipped saws sound like a police siren; IF they develop a "snaky" cut after short usage; IF they dull fast because carbide tips become chipped.

MEYCO VIBRA-FREE* saws embody a new principle in saw design, a new control over vibration by the use of sound absorbing dampers, which eliminate excessive vibration, excessive noise . . . produce smoother cuts, longer life for carbide tips. You get MORE cuts between sharpenings and operators LIKE to use Vibra-Free* blades. Investigate this revolutionary development TODAY. Write for Catalog No. 29.

*T. M. Reg. U. S. Pat. Off.

W. F. MEYERS CO., INC., BEDFORD, INDIANA

▲ For more details circle NED-576 L5 on enclosed inquiry slip ▲

At Last...A Low Cost, Packaged Conveyor!

R-W "460" Continuous Power Chain Conveyor

"460" chain-of-wheels principle gives smooth, friction-free movement through track.

- FLEXIBLE
- VERSATILE
- SAFE
- LOW COST
- NO ENGINEERING NEEDED
- INSTALL IT YOURSELF

Now you, too, can have all the advantages of an overhead conveyor in your plant. Richards-Wilcox' new "460" is the *practical, low-cost* conveyor for smaller plants and for supplemental use in large factories. It combines unusual flexibility, versatility and safety with special economies due to lower load limits. *And installation requires no special engineering or cumbersome superstructure . . . entire layout can be installed by your own personnel!*

R-W "460" is available *completely packaged* from stock throughout the U. S. in lengths up to 200 feet, with capacities of 8½ lbs. on 6-inch centers or 17 lbs. per lineal foot and 200 lb. drawbar pull. It's the ideal conveyor for supplemental use in assembly and production lines, and solves countless handling and movement problems where washers, degreasers, paint sprayers and similar operations are involved.

75 YEARS of QUALITY and SERVICE by RICHARDS-WILCOX

Write today for Catalog A-96

Richards-Wilcox Mfg. Co.
MATERIALS HANDLING DIVISION
Branches in Principal Cities
435 W. THIRD STREET, AURORA, ILLINOIS

SLIDING DOOR HANGERS & TRACK • FIRE DOORS & FIXTURES • GARAGE DOORS & EQUIPMENT • INDUSTRIAL CONVEYORS & CRANES • SCHOOL WARDROBES & PARTITIONS

▲ For more details circle NED-577 L5 on enclosed inquiry slip ▲

NOW! Initial cost of electric industrial trucks cut drastically by unique new Exide® Plan

Buy only the truck chassis!

Lease batteries and charger!

Get superior electric truck operation!

Now you can enjoy the efficiency and economy of electric fork and lift trucks, with relatively low cash outlay.

With the unique, money-saving Exide Plan: 1. You *buy* only the electric truck chassis. 2. You *lease* the Exide-Ironclad batteries and charger. (Terms are flexible to meet your needs and surprisingly low!)

Result: Your initial capital outlay can be cut as much as 33⅓%, whether you purchase one electric truck or a fleet! You pay for superior Exide power *as you use it*, and enjoy big savings. With one electric truck, for example, you can save as much as $1,425 per year. These savings are made possible by longer working life of the truck, lower power costs, lower repair and maintenance costs.

Make us prove these savings in your plant! Call your Exide sales engineer. Ask your electric-truck salesman. Write for all the facts!

Exide INDUSTRIAL DIVISION, The Electric Storage Battery Company, Philadelphia 2, Pa.

▲ For more details circle NED-573 L5 on enclosed inquiry slip ▲

for extra mileage

Extra mileage, that means so much to your production costs, is assured by *Jewel Brand* Abrasive Belts because . . . (1) there is a *Jewel Brand* Belt in the precise size and grit to meet your specific needs whether you grind, smooth, or polish metal, wood, plastics, leather, or rubber; (2) Jewel Brand Abrasive Belts all feature the unique velvet joint that lasts longer; (3) their faster, cleaner, cooler cutting action is time-proven on the job. What's more, AP delivery service excels. Try it. Abrasive Products, Inc., 525 Pearl St. South Braintree, Mass.

JEWEL BRAND
coated **ABRASIVES**

▲ For more details circle NED-578 L5 on enclosed inquiry slip ▲

Only 12 minutes to drill 6¾" holes through 7½" reinforced concrete with TRUCO WATER SWIVEL and TRUCO SWIVEL DIAMOND DRILL BITS

Truco combination cut drilling time from half-a-day to 12 minutes per hole in department store water mains installation. Truco Swivel Diamond Bits in Truco Water Swivel drill reinforced concrete, granite, marble, brick, ceramic tile, etc. at amazing speed. Use with portable or stationary drills. Indispensible to masons, electricians, plumbers, maintenance crews. Can easily save entire cost on first job. Write for folder.

WHEEL TRUEING TOOL COMPANY
61-3200 West Davison Avenue • Detroit 38, Michigan

▲ For more details circle NED-579 L5 on enclosed inquiry slip ▲

YEAR 'ROUND PROTECTION

CAPCO Dock Covers completely enclose the space between car and building doorways protecting loading and unloading during bad weather...preventing accidents... insuring against loss of heat or refrigeration. 51 different models in any size for every loading problem.

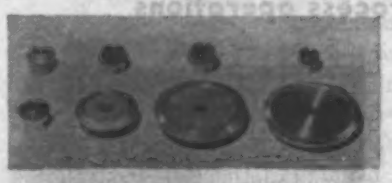
CAPCO

Write for literature and name of nearest distributor.

622-24 PROSPECT AVENUE • KANSAS CITY 24, MISSOURI

▲ For more details circle NED-580 L5 on enclosed inquiry slip ▲

MITER & BEVEL GEARS
stocked in stainless and aluminum



Type N precision pin hub type miter and bevel gears are now available from stock in No. 303 clear passivated stainless steel, or chromic acid anodized 24ST aluminum. Cut to AGMA Precision 1 tolerances, gears are available in 48, 64, and 72 pitches with 20-degree pressure angle and shaft sizes of ⅛, 3/16 and ¼-in. Gears can have stainless steel set screws for holding, or subdrill hole for fixed pinning. Face widths vary in increments of ⅛, 5/32 and 3/16-in., with ratio ranges from 1:1 to 4:1. Made by **PIC Design Corp.,** Dept. NED-P2, 160 Atlantic Ave., Lynbrook, L. I., N. Y.

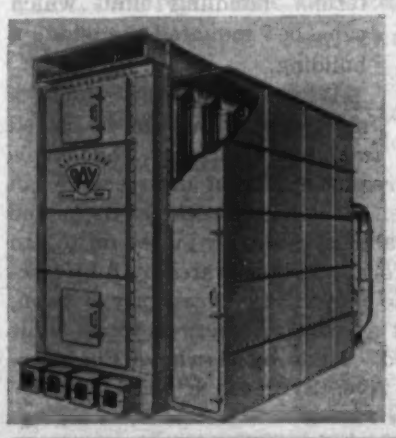
▲ For more details circle NED-581 L5 on enclosed inquiry slip ▲

AUTOMATIC LOADER
adapts to metal finishing mechanism

Originally designed for electroplating machinery, the Auto-Loader automatic parts transfer mechanism can be adapted to any automatic metal finishing mechanism operating with an intermittent motion. Transfer mechanism is mounted on reciprocating carriage which moves on rollers in channel track. Cam followers attached to lifting arms duplicate eccentric contour of side plates to raise and lower lifting arms into loading and unloading positions. Cycle is controlled by limit switches of the processing machinery, actuated by hydraulic cylinder or electric drive. Made by **Wagner Brothers, Inc.,** 426 Midland Ave., Detroit 3, Mich.

▲ For more details circle NED-582 L5 on enclosed inquiry slip ▲

DUST FILTERS
feature inspection doors



Walk-in access door and two inspection doors in new housing of reverse jet Hersey type dust filters facilitates inspection of the operating mechanism. Small access doors are located at the top and bottom of the filter chamber to allow periodic lubrication and inspection of the gearmotor drive which operates the air pressure blower and screw conveyor discharges. The walk-in door permits easy access for maintenance or repairs. Made by **Day Co.,** Dept. NED, 810 Third Ave. N.E., Minneapolis 13, Minn.

▲ For more details circle NED-583 L5 on enclosed inquiry slip ▲

WELDING POSITIONER
for cylindrical or circular parts

Automatic welding of cylindrical or circular work pieces is facilitated by this WP-1 welding positioner which supports and rotates part about its axis in front of welding head. Hollow-center steel table has 9-in. ID, 40-in. OD and is 1½ in. thick. Table speed ranges from 0.1 to 2 rpm are provided by geared Janette ¾-hp dc motor. Electronic armature regenerative braking is used. Table tilt of 135 degrees is driven by 440-v three-phase 60 cycle motor with Micro Switches and mechanical stop to prevent over-riding. A Micro Switch is used for automatic stopping of positioner at end of circumferential weld. Made by **Sciaky Bros., Inc.,** 4517 W. 67th St., Chicago 38, Ill.

▲ For more details circle NED-584 L5 on enclosed inquiry slip ▲

AJUSTRITE®
CHAIRS AND STOOLS
SAVE TIME AND MONEY

3 WAYS

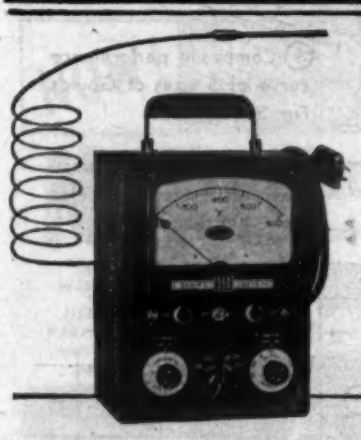
1. Avoids confusion and lost time at start of each period, enables each worker to adjust seat height to fit own requirements.
2. Saves time of supervisors, foremen and maintenance men. Relieved of locating and adjusting seats for each employee.
3. Sturdy construction and special features eliminates maintenance costs—save as much as $3.00 per unit per year.

Sizes and models to meet any requirement. No tools needed—just lift seat to desired height—holds securely where upward lift stops. 2-way backrest adjustment gives support to stop fatigue. Reduces absenteeism.

FREE TRIAL
Try an Ajustrite for 30 days without obligation. The quick, easy, adjustment will surprise you.

AJUSTO EQUIPMENT CO. • 2144 Madison Ave. • Toledo 2, Ohio

▲ For more details circle NED-585 L5 on enclosed inquiry slip ▲

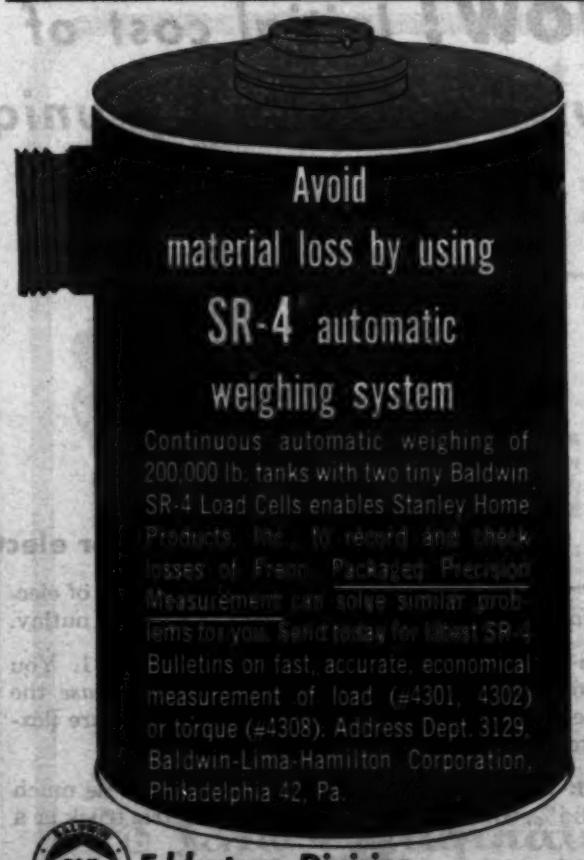


Fenwal first to use thermistor in indicator-controller

The new Fenwal *Series 560* Indicator-Controller is a revolutionary advancement in design and performance. Employing a super-sensitive thermistor, hermetically sealed in glass and enclosed in steel, the new instrument has many advantages that make it an outstanding value for both industrial or laboratory applications. The new sensing element not only probes temperatures from 200° to 600°F with closest accuracy; it also simplifies operation and maintenance by eliminating complex circuitry. And a selection switch permits either time-proportioning or on-off control, with accuracy to within 0.25% of full scale. For complete data on the *Series 560,* **write for Bulletin MC123. Fenwal Incorporated, 811 Pleasant Street, Ashland, Mass.**

Fenwal **Controls Temperatures** *. . . Precisely*

▲ For more details circle NED-586 L5 on enclosed inquiry slip ▲



Eddystone Division
BALDWIN-LIMA-HAMILTON

▲ For more details circle NED-587 L5 on enclosed inquiry slip ▲

REPAIR CONCRETE FLOORS

AND USE THEM IN 45 MINUTES WITH **Kwik-Roc!**

Now you can repair cracks and holes in concrete floors while the plant is out to lunch. Use KWIK-ROC. It makes a floor patch that sets to rocklike hardness within 45 minutes of application. No need to hold up or detour plant traffic. When lunch is over it's all ready to use and abuse. Write for prices and detailed information.

A Subsidiary of Sun Chemical Corporation

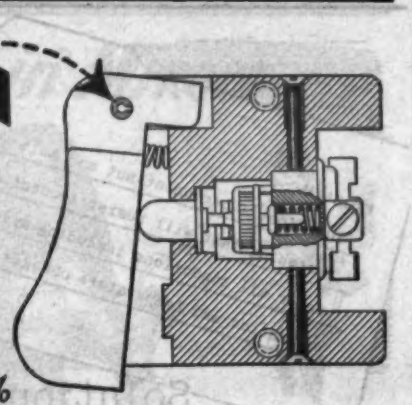
A. C. Horn Co., Inc.
Dept. HO-1168, Long Island City 1, N. Y.

DIVISIONS OF SUN CHEMICAL CORPORATION
HORN • HUDSON • WILLEY (paints, maintenance and construction materials, industrial coatings) • WARWICK (textile and industrial chemicals) • WARWICK WAX (refiners of specialty waxes) • RUTHERFORD (lithographic equipment) • SUN SUPPLY (lithographic supplies) • GENERAL PRINTING INK (Sigmund Ultman • Fuchs & Lang • Eagle • American • Kelly • Chemical Color & Supply Inks) • MORRILL (news inks) • and ELECTRO-TECHNICAL PRODUCTS (coatings and plastics)

▲ For more details circle NED-588 L5 on enclosed inquiry slip ▲

ROLLPIN TRADEMARK

cuts rejects on this plastic assembly 25%



If your assembly is made of plastics, check up on Rollpin. In applications like the phenolic trigger switch above, it cut production costs and actually reduced, from 25% to zero, rejections due to cracking of the plastic parts during seating of the pivot pin. Rollpin is a slotted, hollow steel spring pin with chamfered ends. Pressed into holes molded or drilled to normal production tolerances, it compresses as inserted. It makes a self-locking, vibration-proof fastener. It is light, easily removable, and reusable. Available in diameters .062, .078, .094, .125, .140, .156, .187, and up to .500 in a broad range of standard lengths.

For detailed information and help with electronic fastening problems, write Dept. R32-1137.

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, N. J.

DESIGN HEADQUARTERS FOR SELF-LOCKING FASTENERS

▲ For more details circle NED-589 L5 on enclosed inquiry slip ▲

STOCK FEEDER
for automatic screw machines

Reloading a multiple spindle screw machine without stopping the machine each time previously fed stock is used up is made possible by this Rol-O-Matic stock feeder. Feeder has pair of rollers which engage stock, feeding it to screw machine spindle aligned with the rollers. Rollers disengage from stock before machine indexes to next position, after which they engage stock in the next spindle which has become aligned with the rollers. Made by **Roll-O-Matic Industries**, Dept. D, 18533 Weaver, Detroit 28, Mich.

▲ For more details circle NED-591 L5 on enclosed inquiry slip ▲

SHOWER MIXING VALVE
concealed thermostatic type

One dial plate entirely conceals the valve, stops, checks and strainers of this type BCA thermostatic shower mixing valve. All parts are easily accesible. Exposed parts are finished in polished chrome and internal valve parts are stainless steel. Made by **Lawler Automatic Controls, Inc.**, Bronnex St., Mt. Vernon, N. Y.

▲ For more details circle NED-592 L5 on enclosed inquiry slip ▲

PRESSURE REGULATORS
protected against rough handling

Damage from rough handling of line of On Guard pressure regulators is virtually eliminated by its protection features. A gage guard protects it from accidental breakage, a stainless steel nipple withstands impact of accidental cylinder upset and smooth, easy-action pressure adjustment is by means of an enclosed thrust bearing. All internal parts are stainless steel. Sintered stainless steel filtered check-valve unit eliminates causes of regulator seat failure. Single and two-stage models are available for most compressed gases. Made by **K-G Equipment Co.**, Dept. NED, Box 538, Allentown, Pa.

▲ For more details circle NED-593 L5 on enclosed inquiry slip ▲

CLOSELY CONTROLLED HEATING
. . . with fast-heating, versatile TEMCO Hot Plates for boiling, evaporations, etc.

Here's the Hot Plate that processes your work precisely! Completely variable regulation of temperature between 60° and 455° C. (140° to 850° F.). Built-in controls hold temperature to extremely close limits, without variations due to line voltage changes. Economical to operate . . . current is "on" only half of the time to hold 260° C. (500° F.). Scientifically designed throughout to meet strict functional requirements. Two sizes: 12" X 12", 1300 Watts, and 12" X 24", 2600 Watts . . . both 7" high $65 and $85. Write for literature and name of nearest dealer.

TEMCO **HOT PLATES**

THERMO ELECTRIC MFG. CO., 484 HUFF ST., DUBUQUE, IA.

▲ For more details circle NED-594 L5 on enclosed inquiry slip ▲

HOBBS EST 1882

ENGINEERED CUTTING

Hand — Semi-Automatic — Automatic

Let Hobbs Engineering Analyze and Solve Your Cutting Problems

Whether you need a simple hand shear or a completely automatic installation, Hobbs analyzes your requirements and supplies the most efficient and economical machine for the purpose, including tables and all accessory equipment.

Hobbs "Jacques" Hand Shears are made in lengths from 24" to 10' and cut cleanly, in one easy stroke, not only plastics, but any soft material. The Jacques Bench Shear is easily mounted for straight or angle cutting and is readily moved from one location to another. Jacques Hand Shears with gauges are also available.

The Automatic Electronic Cutter, shown here, has doubled production and reduced labor cost by 2/3. It handles material 60" wide.

Send for a "Hobbs Engineered Cutting Survey Questionnaire". With the information it requests we'll make recommendations, free of all obligations.

HOBBS MANUFACTURING CO. EST 1882
41 Salisbury St., Worcester 5, Mass.

N.Y. Area Office—P.O. Box 136, Cranford, N. J. Ch. Off. at 549 W. Wash. Blvd.

Producers of Modern Machinery for the
PLASTICS, RUBBER, TEXTILE, PAPER & WIRE INDUSTRIES
Winders • Hand & Power Shears • Die Presses • Slitters • Corner Cutters

▲ For more details circle NED-595 L5 on enclosed inquiry slip ▲

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weighs only 35 lbs.

ALCO-LITE TYPE 600 WAREHOUSE LADDER

Although it's built for the roughest, heaviest warehouse duty—it can be handled very easily by a single person.

Only a ladder made of high tensile strength aluminum alloy can be made so strong, yet be so lightweight. Type 600 is built with heavy gusset plates and riveting throughout. The ladder stands 5' high and features a roomy 14" by 18" non-slip platform and 6" wide corrugated non-slip steps. Additional safety features include a hand rail and rubber feet on the front legs. Rubber tire casters on the rear legs make the ladder very maneuverable. More than meets ASA and Metal Ladders Association standards.

Where storage is a problem—these ladders can be built to fold.

For NEW General Catalog, plus further information on Type 600 write to Department 5M.

Each step is permanently riveted with 8 rivets – 2 in front and 2 in back, on both sides.

Original Manufacturer of Aluminum Ladders
Aluminum Ladder Company
WORTHINGTON PENNSYLVANIA

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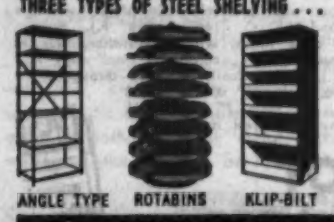
NEW IDEAS
TO DOUBLE YOUR STORAGE CAPACITY

THREE TYPES OF STEEL SHELVING . . .



write for catalog 702

The FRICK-GALLAGHER MFG. CO.

112 S. MICHIGAN AVE., WELLSTON, OHIO

Specialists in Storage Planning and Manufacturing of Storage Equipment

▲ For more details circle NED-596 L5 on enclosed inquiry slip ▲

AUTOMATION

As sliced cold meats travel by on stainless steel Wendway belting, operator labels each type as they proceed to the package wrapping machine.

IS SIMPLE

WITH WENDWAY

THE VERSATILE, LIGHT PRODUCT CONVEYOR

Freshly packaged cheese sections are conveyed smoothly and quickly to labelling machine via Wendway.

Cartons or light packages ride perfectly on Wendway's smooth, silent belting.

You can have remote controlled efficiency in conveying light products to any location in your plant. A Wendway system will eliminate multiple handling of products, save man hours and floor space. Wendway, industry's most versatile conveying system, specializes in moving light goods swiftly, quietly, safely and *economically*.

Wendway's steel wire belting is ideal for handling wrapped or unwrapped foods up to twenty pounds per unit. It permits free circulation of air from above and below. Does not sag or accumulate grease and dirt like *ordinary* belting. Wendway can be kept highly sanitary with hot water, or by direct scalding. Regular bright basic (lacquered) belting is fine for packages or products, stainless steel belting is recommended for foods or unwrapped meats.

So . . . whether your problem is assembly, processing, packing, order picking or inspection; you'll find Wendway pays for itself from the day it's installed.

Gentlemen:
Please send me additional information about Wendway for conveying _____
Name _____
Company _____
Address _____ Zone ____ State ____
Have a USP Conveyor Engineer contact me at once ☐

UNION STEEL PRODUCTS COMPANY
ALBION, MICHIGAN

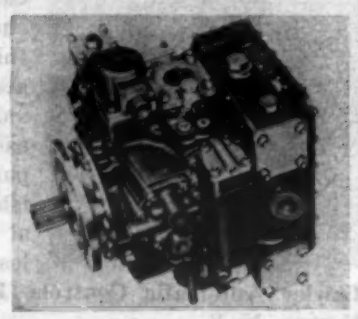
▲ For more details circle NED-597 L5 on enclosed inquiry slip ▲

INTERCOMMUNICATION SYSTEM
10 and 20-station units offered

Two-way "private" conversation between stations without the use of any controls at either point during conversation is provided by the Super Chief intercommunication system. It is operated automatically by the user's voice, thereby eliminating controls. Ten and 20-station models are available. A conference control feature permits "private" conferences between as many as four stations without interference from other stations. Automatic Traffic Control visually indicates at the user's station whether the station being called is busy, not busy or "in conversation" by use of red, green and amber light. Made by **Talk-A-Phone Co., 1512-Q S. Pulaski Rd., Chicago 23, Ill.**

▲ For more details circle NED-598 L5 on enclosed inquiry slip ▲

ELECTRO-HYDRAULIC PUMP
servo unit is rated at 55 hp



Accurate position control in oil-hydraulic servo systems having intermittent operating pressures of up to 4500 psi is provided by the series PV 3918 electro-hydraulic servo pump. Designed for rotary and linear servo applications, it is rated at 55 hp and delivers 35 gpm at 3500 rpm. It is available as part of various hydraulic transmission assemblies, built up as packaged units to meet specific job requirements. Unit may be combined with a single fluid motor or linear actuator or with two fluid motors in series or parallel. A variety of solenoid control combinations can be obtained. Control pressure can also be used for external sequencing. Made by **Vickers Inc., 1456 Oakman Blvd., Detroit 32, Mich.**

▲ For more details circle NED-599 L5 on enclosed inquiry slip ▲

TEMPERATURE DETECTORS
for ranges from 330 to 1380° F

Platinum resistance temperature detectors for use in precision temperature measuring and control systems find application in ranges from 330 to 1380° F. Platinum sensing elements are hermetically sealed in either 7/32-in. diameter Pyrex or 1/16-in. diameter ceramic housings. Units are capable of extremely high speed response. For use in pyrogen testing or general laboratory work, detectors are mounted in ⅛-in. smooth stainless steel case with all leads protected by pliable rubber tubing. Element is accurate within ±0.6 per cent. Made by **Robertshaw-Fulton Controls Co., Fielden Instrument Div., 2902 N. Fourth St., Philadelphia 33, Pa.**

▲ For more details circle NED-600 L5 on enclosed inquiry slip ▲

TIME DELAY RELAY
has ¼ of 1 per cent repeat accuracy

Type 412, synchronous motor driven, time delay relay has setting mechanism that is adjustable over the full dial range, even while the timer is operating. Two pointers indicate time setting and progress. Operation is from either a momentary or sustained closure. Two single-pole double-throw and one single-pole single-throw heavy duty open-blade contacts provide many external load connection possibilities without affecting internal wiring. Contacts are rated 15 amp, at 125 v ac. Repeat accuracy is within ±¼-per cent of full scale on times over 30 seconds. Fourteen ranges from 6 seconds through 24 hours are offered for use on 115 and 220 v, 25, 50 and 60 cycles. Made by **R. W. Cramer Co., Box 281, Centerbrook 5, Conn.**

▲ For more details circle NED-601 L5 on enclosed inquiry slip ▲

ANY WAY you look at it . . .

LIGHTWEIGHT MAGLINER PLATFORM TRUCKS SAVE EFFORT, SAVE MONEY!

What's so different about a Magliner platform truck? Why will it save you more than any other platform truck on the market?

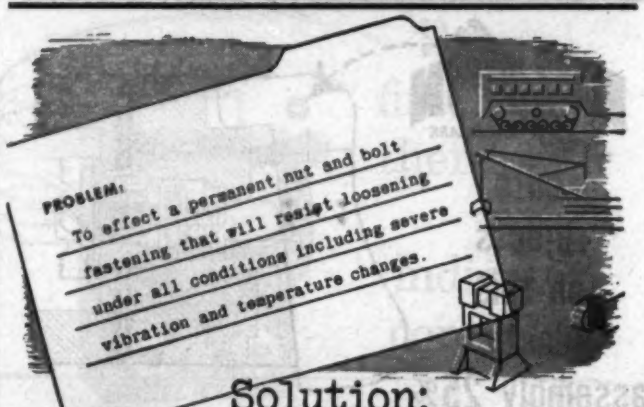
The answer lies in the fact that Magliner magnesium platform trucks deliver greater work *output*—with less work *input!* Your men push the load, not the truck . . . and save you money with every step! Magliners eliminate pushing and handling deadweight—give you more for your payroll dollar. Made from the world's lightest metal, Magliners weigh only ¼ as much as wood-and-steel equipment yet are equal *or superior* in strength and payload capacities! You'll get years of dependable, economical service with a Magliner.

HERE'S THE PROOF. Try a Magliner on us! Without cost or obligation your local Magliner representative will gladly place one at your disposal. Try it! Test it! See why Magliners have gained tremendous popularity in large and small companies alike. Drop us a line today!

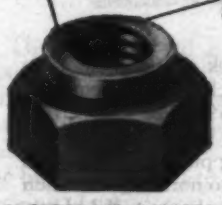
Write for Bulletin MPT-211
MAGLINE, INC.
P. O. Box [illegible]
Pinconning, Michigan

In Canada: Magline of Canada, Limited, Renfrew, Ontario.

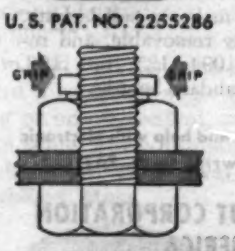
▲ For more details circle NED-602 L5 on enclosed inquiry slip ▲



Solution: *Lamson* LOCK NUTS



U. S. PAT. NO. 2255286



Unlike many other lock nuts, the Lamson Lock Nut is a *one-piece all steel* nut that does not depend upon inserts or special methods of application for use.

As it is turned on the bolt, the heat-treated crown collar, slightly distorted from the round, grips the bolt firmly. When the nut is tightened the threads of the collar are forced against the "non-pressure flanks" of the bolt. Since the main body of the nut is exerting pressure on the "pressure flanks" a radial locking action results. Lamson Lock Nuts may be reused repeatedly without losing their locking action.

So, if you have a problem as stated above, consider Lamson Lock Nuts. They are the ideal solution from every standpoint.

The LAMSON & SESSIONS Co.
1971 West 85th St. • Cleveland 2, Ohio
CLEVELAND AND KENT, OHIO • BIRMINGHAM • CHICAGO

▲ For more details circle NED-603 L5 on enclosed inquiry slip ▲

Easy to Get—
the RIGHT Data
the RIGHT Ideas
about YOUR
MINIATURE LIGHTING NEEDS

Here's the *scientific* way to approach Miniature Lighting. Just fill in basic questions on Drake's new PROJECT DATA SHEET, and mail it back. Our expert engineers will scientifically analyze your data . . from all the thousands of possible lighting arrangements, will recommend the *one best* for top results, greatest economy, in *your* specific case. Drake's decades of specialized Miniature Lighting experience, and complete line of regular and special units, are thus at your disposal. *This service is free—no obligation.*

SEND FOR YOUR COPY!

DRAKE

DRAKE MANUFACTURING COMPANY
1711 WEST HUBBARD ST. • CHICAGO 22, ILL.
SOCKET & JEWEL LIGHT ASSEMBLIES

▲ For more details circle NED-604 L5 on enclosed inquiry slip ▲

YOUR "TOUCH OF GOLD" ROUTE

... to hard-to-reach grinding spots

Norton mounted wheels and points bring the same "Touch of Gold" grinding performance to small or hard-to-get-at areas that big Norton wheels deliver in the "wide open spaces." Here's why:

- *They stay TIGHT on their spindles, under severest use.*
- *They're trued on their own spindles, for: perfect concentricity; sharpness and fast-cutting action; accuracy of dimensions and shape.*
- *Norton's statistical quality control assures positive duplication from lot to lot.*
- *They're a 100% complete line, for grinding all metals and many other materials ... made in nearly 200 standard shapes and sizes ... in all required abrasives and bonds.*

See your Norton Distributor for mounted wheels and points, or write to NORTON COMPANY, Worcester 6, Mass. Distributors in all industrial areas. *Export:* Norton Behr-Manning Overseas Incorporated, Worcester 6, Massachusetts.

Making better products ... to make your products better

NORTON W-1651

and its BEHR-MANNING division

NORTON COMPANY: Abrasives • Grinding Wheels • Grinding Machines • Refractories
BEHR-MANNING DIVISION: Coated Abrasives • Sharpening Stones • Pressure Sensitive Tapes

▲ For more details circle NED-605 L5 on enclosed inquiry slip ▲

Lightnin Mixers

Make any open tank a mixing vessel ...

Mix fluids in a few seconds, anywhere in the plant. Make up chemical solutions ... mix paint ... dissolve powders and crystals ... circulate solvent for cleaning small parts —do hundreds of mixing jobs quickly, thoroughly.

A LIGHTNIN Mixer takes the place of hand stirring, at much lower cost. Just clamp it on any open tank or vessel.

Thousands in use everywhere. Many in service over 20 years. Fully guaranteed.

Thirty models to choose from—⅛ to 3 HP. Electric and air motor types. *Send today for Catalog B-75.*

FOR PERMANENT MOUNTING ... Top entering propeller mixers for open tanks, closed pressure vessels. Sizes ⅙ to 3 HP. Send for Catalog B-103.

FOR BIG MIXING JOBS ... Turbine and paddle mixers for open or closed tanks. Sizes 1 to 500 HP. Send for Catalog B-102.

FOR VERY LARGE TANKS ... Side entering propeller mixers. Sizes 1 to 25 HP. Send for Catalog B-104.

MIXING EQUIPMENT Co., Inc.
165-m Mt. Read Blvd., Rochester 11, N. Y.
In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 10, Ont.

MIXCO fluid mixing specialists

▲ For more details circle NED-606 L5 on enclosed inquiry slip ▲

ELECTRONIC BATCH COUNTERS register 0-100,000 counts/second

Available in four models, DS-700 series of electronic batch counters will operate with absolute accuracy from 0 to 100,000 counts per second, depending on number

of decades. These direct reading totalizers are intended for industrial batch counting; measuring characteristics of jet engines, turbines and electric motors; and counting total revolutions of high speed shafts. On model DS-740 four-decade unit a mechanical register extends maximum count capacity to 9,999,999,999. Capacity of smaller model DS-710 is 9,999,999. Relay contacts are rated 5 amp, 115 v, 60 cycles. Units are lightweight and portable. Made by **Computer-Measurements Corp.**, 5457A Cleon Ave., North Hollywood, Calif.

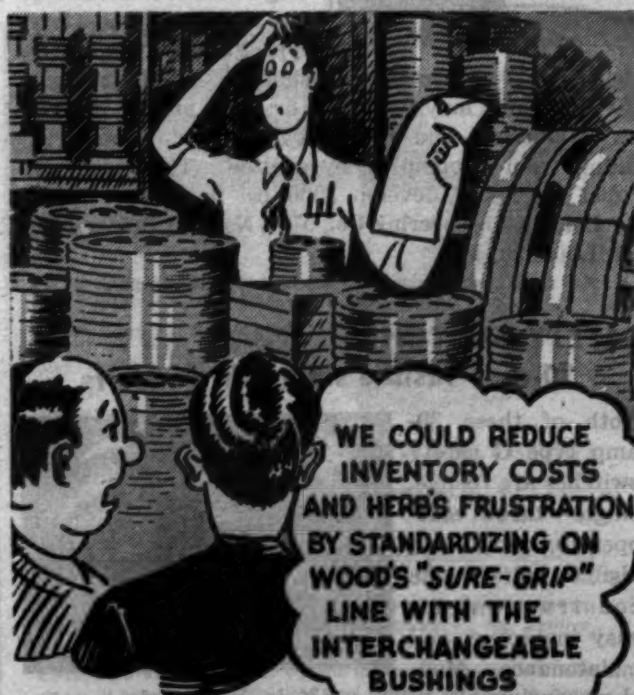
▲ For more details circle NED-607 L5 on enclosed inquiry slip ▲

ABRASIVE CUT-OFF MACHINE semiautomatically cuts 4-in. tubes and angles and up to 2½-in. solids

Accuracy, smooth cut and operator safety are features of this semiautomatic Bullard abrasive cut-off machine. Metal cover fully encloses cut-off wheel during the upward cutting stroke. Dual hydraulic clamping plates hold the material rigidly on both sides of the cut. Wheel travel, clamping plates and wheel cover are all operated by double-acting hydraulic cylinders. Machine can be used wet or dry. In wet cutting, the coolant flows through the wheel shaft to cool the wheel bearings, and is applied to both sides of the wheel through openings in the wheel flanges.

Heavy duty motor and drive unit combine to provide a flywheel effect that keeps wheel speeds constant, with a maximum of 13,500 fpm. This assures smooth finish and squareness of cut. Machine cuts solids up to 2½-in. diameter, squares to 1¾ in., angles to 4 in. and tubing up to 4-in. OD. Distributed by **Lombard Governor Corp.**, 150 Main St., Ashland, Mass.

▲ For more details circle NED-608 L5 on enclosed inquiry slip ▲



You can now meet nearly all your requirements and yet carry fewer pulleys, sheave and coupling sizes in stock, thus materially reducing inventory costs. Remember, standardize on Wood's.

Woods — T. B. WOOD'S SONS COMPANY
CHAMBERSBURG, PA.
Cambridge, Mass. Newark, N. J. Dallas, Texas Cleveland, O.

▲ For more details circle NED-609 L5 on enclosed inquiry slip ▲

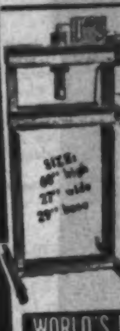
SAVE UP TO 85% ON GOVERNMENT SURPLUS

MAGNI-FOCUSER Has fine ground lenses of optical glass. Neutralizes eye strain from close work. Binocular design gives third dimensional vision. Allows freedom of both hands. Wear over glasses. Plastic frame with adjustable headband.
SIZES: 20" focal lgth. 1½ power—14" focal lgth., 1¾ power, 10" focal lgth., 2¼ power; 8" focal lgth., 2¾ power ...... price each ONLY 10.50

HYDRAULIC EQUIPMENT We stock over 100,000 Hydraulic Cylinders in 106 different types and sizes. These can be adapted wherever tremendous power is needed to push, pull, hoist, mould or drive, etc.

SPECIAL Gives 20,000 lb. thrust using 1000 PSI line pressure as obtained from our hydraulic pumps. Will produce up to 40,000 lb. thrust with 2000 PSI. Can also be used on a low pressure air system. Has 4" bore; 18" stroke; 38½" long. Ideal for shop. Part No. 29 USED 29.95 NEW 43.95

OTC TOOLS See our complete line. Pullers for Gears, Bearings, Wheels, Pulleys, Bushings, Shafts, etc.



NEW 10 TON HYDRAULIC PRESS Use this Press in the Shop or take it with you on the job. Frame is 4" welded channel iron. Has 4½" stroke, 2½" diam. ram. Valve operates piston in both directions. Adjustable platform. Positive power Hand Pump with handle. 2000 PSI pressure gauge. 129.00
SIZE: 60" high 27" wide 29" base

HYDRAULIC HAND PUMP Operating pressure 1500 PSI. Cap., 1.5 cu. in per complete cycle ... 12.75

HYDRAULIC ACCUMULATORS A–3B FLOATING PISTON TYPE – 4"x 18" Built to stand 2,000 PSI 12.75
A–5 VICKERS – 10" dia. Ball type. Built to stand 2000 P.S.I. 24.50

NOTE: Stocks include bargains in Hydraulic Pumps – Valves – Motors – Boosters – as well as Oil, Water and Fuel Pumps, etc.

WORLD'S MOST AMAZING BARGAIN CATALOG

JUST RELEASED
OUR NEW CATALOG SUPPLEMENT IS JUST OFF THE PRESSES! HERE IS OUR LATEST INFORMATION ON HUNDREDS OF HYDRAULIC ITEMS AND ACCESSORIES. MANY OF THESE HYDRAULIC ITEMS HAVE NEVER BEFORE BEEN LISTED ..... CYLINDERS, VALVES, PUMPS, MOTORS, TUBING, FITTINGS AND MANY MISCELLANEOUS ITEMS IN NEW AND SURPLUS HYDRAULIC SUPPLIES ARE SHOWN. WRITE FOR YOUR FREE COPY TODAY ...

Palley SUPPLY CO.
2263 E. VERNON AVE., DEPT. NED-11
LOS ANGELES 58, CALIF.

Pay by M.O. or check. ... Prices FOB Los Angeles

▲ For more details circle NED-610 L5 on enclosed inquiry slip ▲

Why pay for bronze you can't use?

That's exactly what happens when you buy rough cast bronze bars of uncertain chemical analysis that require cutting away as much as 25% of the metal inside and outside before you reach usable bronze.

Johnson *guaranteed quality* Universal Bronze Bars in over 400 standard sizes made of Johnson alloy No. 72 are *completely machined,* save you time and money because they are ready to finish into bearings, washers, thrust plates, gears, pinions, guides, rollers, sheaves, trolley wheels and other parts for your original equipment and maintenance.

Cored bars are available from stock in 354 size combinations in standard lengths of 13" with ID's ranging from ½" to 8", minus ⅛". OD's range from 1" to 10", plus ⅛". Thickness of wall stock ranges from ¼" to 2½", plus ⅛".

Solid (36 sizes) and hexagonal (20 sizes) bars are also available from stock.

Ask your distributor or write for catalog to Johnson Bronze Co., 580 S. Mill St., New Castle, Pa.

Johnson Bronze Company

Also makers of finished bearings, bushings, electric motor bearings, self-lubricating bearings, automotive bearings.

▲ For more details circle NED-611 L5 on enclosed inquiry slip ▲

1/4" diameter BELLOWS

FOR SMALL SIZE NEEDS

Seamless metal bellows in ¼" and 3/16" diameters are providing significant savings in size and weight in many miniaturization applications. Available exclusively from Bridgeport Thermostat in a wide range of characteristics and metals.

Robertshaw-Fulton CONTROLS COMPANY

BRIDGEPORT THERMOSTAT DIVISION
Dept. (NED 1400), Milford, Connecticut

☐ Send data on small-diameter bellows
☐ Send Bellows Engineering Bulletin #125 (28 pages)

NAME ______
COMPANY ______
ADDRESS ______
CITY ______ STATE ______

▲ For more details circle NED-612 L5 on enclosed inquiry slip ▲

Chicago RIVET "912"
AUTOMATIC RIVET SETTER
CUTS COSTS 3 WAYS

1 FASTENS FASTER . . . Only the speed of the operator limits the 912's riveting speed. Completely automatic. A push on the foot pedal automatically feeds, inserts and clinches the rivet.

2 DOES WORK OF SEVERAL MACHINES Quick change rotary hopper and raceway makes the 912 adjustable in 5 to 10 minutes to set different size rivets. Adjustable anvil height and 12-inch throat provide further versatility.

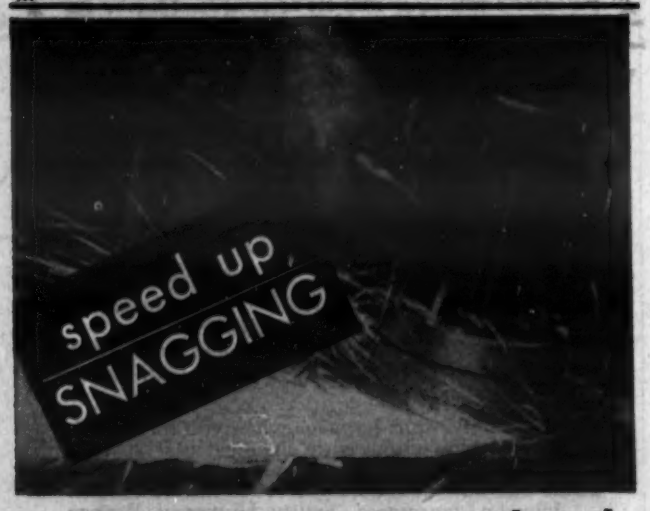
3 SAVES ON MAINTENANCE . . . The 912 is massively built to stand the shocks of constant use and is designed for quick, easy servicing and parts replacement.

If your assembly calls for 3/16" steel tubular rivets or smaller, of 15/16" lengths or less, ask us to show you how the 912 can cut your fastening costs. Send a sample of your problem assembly (or blueprint) for a free fastening analysis.

FREE CATALOG *contains valuable engineering information and rivet specifications plus illustrated descriptions of 26 Chicago Automatic Rivet Setters.*

Chicago Rivet & MACHINE CO.
9606 West Jackson Boulevard, Bellwood (Chicago Suburb) Illinois
Branch Factory: Tyrone, Pa.

▲ For more details circle NED-613 L5 on enclosed inquiry slip ▲



...with Atlantic cup wheels

Faster *. . .* cleaner, cooler-running Atlantic Cup Wheels are made with a special resinoid bond and wider lips . . . provide maximum wheel strength for continuous high-speed operations.
Safer *. . .* for maximum safety, every Atlantic Cup Wheel made—from the 2½" to 8" size inclusive—is speed tested at a 50% higher speed than that required for normal snagging operations.
More economical, too! Because they wear longer and seldom have to be dressed, Atlantic Flare and Straight-Type Cup Wheels eliminate the need for frequent replacements . . . keep operating costs at a minimum. Prove it for yourself. Call your nearby Atlantic representative or write direct. Atlantic Abrasive Corporation, 504 Pearl Street, South Braintree, Massachusetts.

ATLANTIC ABRASIVE CORP.
South Braintree 85, Massachusetts

▲ For more details circle NED-614 L5 on enclosed inquiry slip ▲

You can provide easy mobility to a variety of industrial products with
IRONBOUND ALL-PURPOSE HANDLING UNITS . . .

POPULAR IRONBOUND FLO TRUK

● An easy to handle ruggedly constructed unit for carrying bulky and heavy loads at lowest cost. Seven standard sizes with one or two push handles makes it easy to select the proper truck for your requirements. Ask an Ironbound engineer for suggestions.

The HANDY for furniture and similar items. The HAULER for cases, crates, tote boxes, etc. The HUSKY for general use throughout the plant.

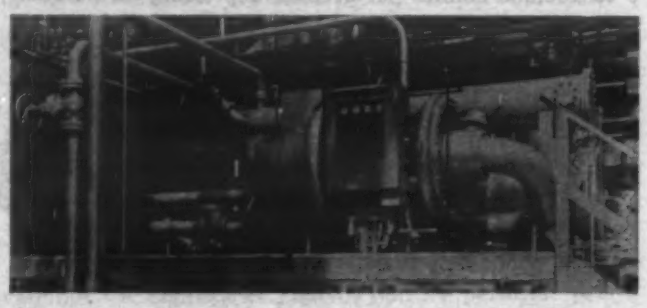
THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS
Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
53 HOFFMAN PLACE • HILLSIDE, N. J.
MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

▲ For more details circle NED-615 L5 on enclosed inquiry slip ▲

CENTRIFUGAL WATER CHILLERS
for outdoor use without enclosures

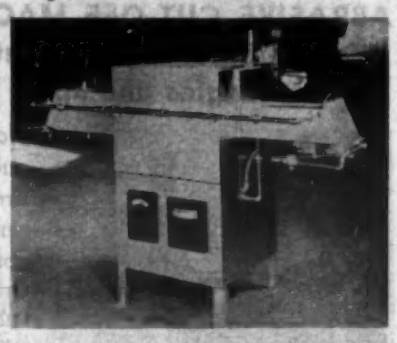
All sizes of CenTraVac centrifugal water chillers from 50 to 800 tons refrigeration capacity are now available for outdoor installation without protective en-



closures. They feature hermetic construction and automatic operation. Purge unit, control panel, conduit boxes and capacity control mechanism are weatherproofed and provided with electric heaters to prevent condensation. Insulation is waterproofed, with suitable weather-resistant paint used on the exterior. Made by **Trane Co.**, 2018 Cameron Ave., La Crosse, Wis.

▲ For more details circle NED-616 L5 on enclosed inquiry slip ▲

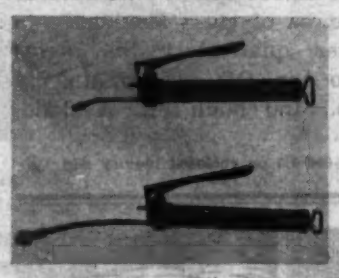
ELECTRIC SINTERING FURNACE
operating temperature is 2500° F



Operating temperature of 2500° F is obtained in model SNX Pereco electric furnace for controlled - atmosphere sintering of powdered metals, brazing, bright annealing and other metallurgical operations. Trays of products to be heated are manually pushed through the successive temperature zones. Mechanical pusher systems with speeds as low as 0.03-in. per minute are offered in the smaller sizes. Most atmospheres can be used which will not attack silicon carbide. Maximum power rating is 20 kw, 220 v, single or three-phase, 60 cycle. Counterbalanced doors are equipped with automatic flame curtains, and radiation baffles are adjustable from fully closed to fully open. Made by **Pereny Equipment Co.**, Chambers & Pereco Rds., Columbus 12, O.

▲ For more details circle NED-617 L5 on enclosed inquiry slip ▲

GREASE GUNS
high volume lever type units



Rigid hydraulic coupler extension for hydraulic fittings or flexible 12-in. whip nose extension with button head coupler for button head grease fittings are available on two high volume, lever type grease guns. They deliver 0.17-oz per stroke using No. 1 cup grease at 70° F. Guns may be spring or force primed, hold 21 oz of lubricant and include a filler nipple for fast refilling from a pump or by suction. They are rust-proof steel and develop 2500 psi maximum. Made by **Lincoln Engineering Co.**, 5782 Natural Bridge Ave., St. Louis 20, Mo.

▲ For more details circle NED-618 L5 on enclosed inquiry slip ▲

SAFETY SWITCHES
30-amp fusible single-throw units

Both of these 30-amp type G safety switches are fusible, single - throw, side-operated units with visible knife blade construction for easy inspection and maintenance. Model measuring 5¼ x 2¾ x 6¾ in. has a helper spring for simulated quick-break action to minimize arcing. Smaller Pony model is a two-wire, one-blade switch with plug fuse. It measures 3⅞ x 2⅝ x 6¼ in. Both are sealable in both off and closed positions. Small model is available in either plug or cartridge fuse, two or three-wire. Made by **Murray Mfg. Corp.**, 1280 Atlantic Ave., Brooklyn 16, N. Y.

▲ For more details circle NED-619 L5 on enclosed inquiry slip ▲

now—ALL FROM 1 SOURCE

- Vari-speed motor pulley
- Reliance Ac motor
- Adjustable motor base
- Vari-speed belt
- Driven pulley

Eight sizes for ⅛ to 15 hp. 2:1 to 4:1 ratio

REEVES *Vari-Speed Motor Pulley*

This simple, compact REEVES unit widens machine range—economically, adjusts work flow to conditions. Smooth, instant speed changes without stopping machine. Also available without motor. Full details—Bulletin ND18b-V545.

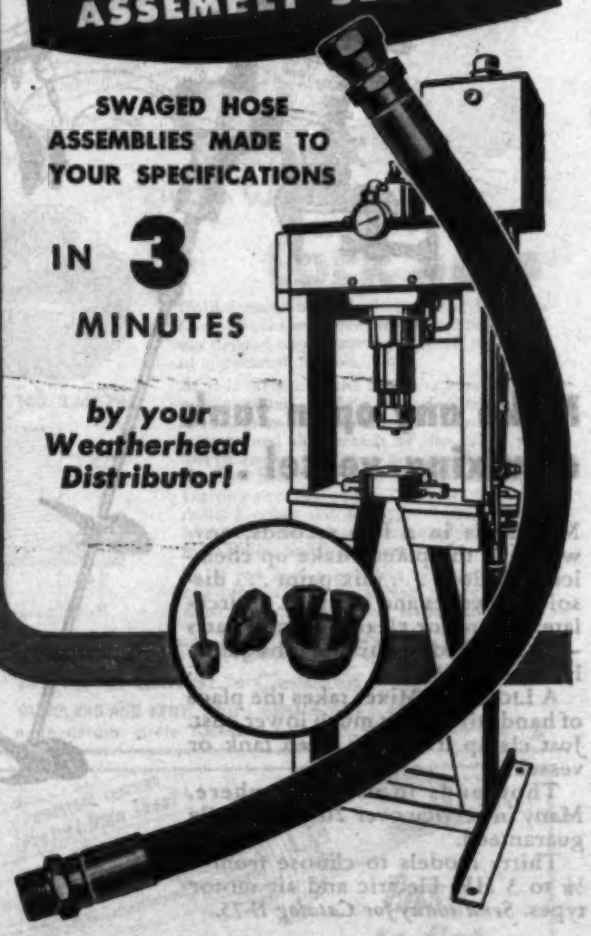
REEVES PULLEY COMPANY, COLUMBUS, INDIANA
Division of RELIANCE *Electric and Engineering Co.*

▲ For more details circle NED-620 L5 on enclosed inquiry slip ▲

"RIGHT-NOW" SWAGED HOSE ASSEMBLY SERVICE

SWAGED HOSE ASSEMBLIES MADE TO YOUR SPECIFICATIONS IN 3 MINUTES

by your Weatherhead Distributor!



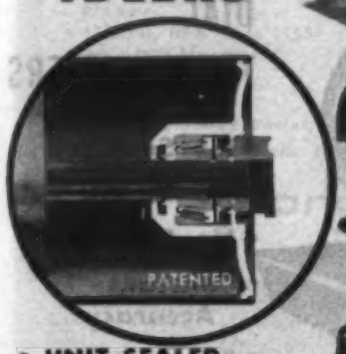
Now, for the first time, your Weatherhead distributor offers you complete swaged hose assembly service right in his own shop. No waiting for shipments of factory-finished hose assemblies. No need for costly downtime and delay. Equipped with the new Weatherhead swaging press and the complete line of Weatherhead hydraulic hose and hose ends, your distributor is prepared to supply you with any quantity, length, size, or type hose assembly at once.

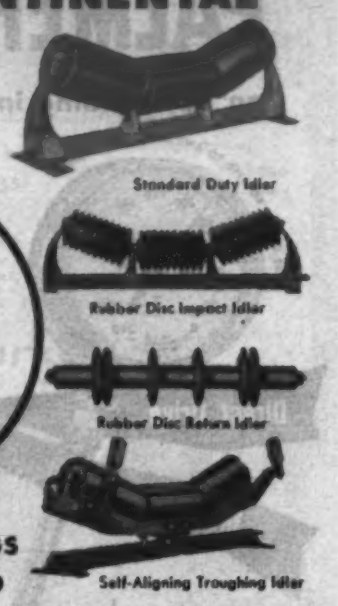
Wherever you are, whatever you need, there's a Weatherhead distributor strategically located to give you immediate stand-by swaged hose assembly service.

WEATHERHEAD
WEATHERHEAD LEADS THE WAY

▲ For more details circle NED-621 L5 on enclosed inquiry slip ▲

Specify CONTINENTAL UST IDLERS





- UNIT-SEALED
- TIMKEN BEARINGS
- PRE-LUBRICATED

Saves GREASE! Saves LABOR! Saves BELTS!

If you use belt conveyors—you need Continental Idlers!

Write for Bulletin NED-116

ALL SIZES! ALL TYPES! CG-5302

INDUSTRIAL DIVISION
CONTINENTAL GIN COMPANY
Birmingham 2, Ala.
ATLANTA • DALLAS • MEMPHIS • NEW YORK

▲ For more details circle NED-622 L5 on enclosed inquiry slip ▲

NOW AT YOUR WEATHERHEAD DISTRIBUTOR

A Complete Line of HOSE AND HOSE ENDS FOR EVERY INDUSTRIAL NEED

TYPES OF HOSE

H-17

Two-fibre braid. Medium pressure. Sizes ¼" to 1" I.D.; working pressures 550 to 1200 p.s.i.

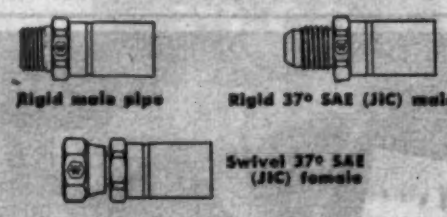
H-104

One-wire braid. Medium pressure. Sizes ¼" to 1" I.D.; working pressures 1250 to 2500 p.s.i.

H-425

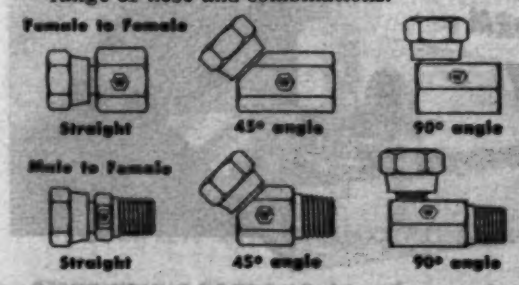
Two-wire braid. High pressure. Sizes ¼" to 2" I.D.; working pressures 1200 to 4500 p.s.i.

TYPES OF HOSE ENDS



SWIVEL ADAPTERS

These swivel adapters permit a wide range of hose and combinations.



There's a Weatherhead field engineer ready wherever you need him to help you take full advantage of all that Weatherhead offers.

WEATHERHEAD

The Weatherhead Co.
Fort Wayne Division, Dept. P-11
128 West Washington
Fort Wayne, Indiana

▲ For more details circle NED-621 L5 on enclosed inquiry slip ▲

PLASTIC TRIMMING PRESSES in five models from 75 to 300 tons

Line of hydraulic presses for trimming and piercing parts made from vacuum - formed plastic includes five standard models in capacities from 75 to 300 tons. Presses have fast ram approach for time-saving closure and return of movable platen, adjustable stroke control for automatic slow-down before work is contacted and accurate pressure for job flexibility. Platens range from 40 x 50 in. to 60 x 80 in. Daylight openings range from 22 to 40 in. All-steel construction and guided platens assure rigidity and alignment for accurate work. Made by **Dake Corp.**, 642 Seventh St., Grand Haven, Mich.

▲ For more details circle NED-623 L5 on enclosed inquiry slip ▲

SEQUENCE VALVES for 3000-psi hydraulic service

Designed for 3000-psi hydraulic service, series 4000 slide type sequence valves have balanced self-cleaning spool that is selectively lapped into a rigid sleeve. Standard maximum internal leakage is 15 drops per minute. Special models have maximum leakage values as low as five drops per minute. Spool design provides a low pressure drop. Valves are furnished with ports for ¼ or ⅜-in. tube fittings, operate at ambient temperature ranges from —65 to 275° F and are provided with either full flow by-pass or thermal type auxiliary relief valves for use at cracking pressures ranging from 8 to 4000 psi. Plunger and lever operated models provide flow in either direction from pressure port to outlet port when plunger is depressed. When plunger is extended, flow is blocked from outlet port to pressure port. Made by **Aircraft Products Co.**, 311 Church Rd., Bridgeport, Pa.

▲ For more details circle NED-624 L5 on enclosed inquiry slip ▲

Automatic Machine Feed Units

F. Jos. Lamb Co.—Pictures, diagrams and production layouts in 8-page brochure portray the role of Stor-Matic Hitch Lift equipment in automated production lines. Highlight is 2-page illustration of automatic stock handling in a gear processing line. Lamb Orienter and bulk storage units are also described.

▲ For more details circle NED-625 L5 on enclosed inquiry slip ▲

This Conveyor will serve you better — longer!

Weld-Bilt STEEL-BELT CONVEYORS

If you will compare the advantages of this "moving belt of interlocking steel", you can readily see why the WELD-BILT is today's most important new aid to materials moving . . . Far superior to other types of conveyor equipment.

HERE'S WHY —

POSITIVE TRACKING — always runs in a straight line — no weaving, buckling, stretching, creeping.

SLIP PROOF DRIVE — Weld-Bilt steel sprocket positive-engagement drive avoids any chance of slippage — for positive, accurately timed movement at any selected speed.

UNLIMITED BELT LIFE — Weld-Bilt conveyor surfaces are solid sheets of heavy steel or stainless steel to carry heaviest, roughest loads through years of service with minimum replacement expense.

FRICTION — NIL! — Individual links ride on ball bearing rollers in grease sealed raceways — for easier, smoother operation — at low power cost.

WRITE FOR BULLETIN AND FURTHER DETAILS

WEST BEND EQUIPMENT CORP.
Materials Handling Engineers
311 Water Street, West Bend, Wisconsin.

▲ For more details circle NED-626 L5 on enclosed inquiry slip ▲

You may have spent enough to pay for an AMF De Walt...

BUT DO YOU OWN ONE?

Even if you've invested as little as $239 in shop equipment you may not be enjoying the benefits of a De Walt®. One low-cost AMF De Walt...

- Does ALL the work of a swing saw, straight line cut-off and miter saw, table-type rip saw, dado machine, shaper plus many others.
- Saves you up to 60% in capital equipment investment.
- Saves you up to 75% in floor space.

These and many other AMF De Walt advantages are explained fully in our *free* new idea book for industry. SEND FOR IT TODAY! Write AMF De Walt, Dept. NED-11, Lancaster, Pa.

FREE! Send for new idea book on industry!

Another AMF Product
DE WALT POWER TOOLS

▲ For more details circle NED-627 L5 on enclosed inquiry slip ▲

because the motor breathes fresh air the *New* Hartzell Bi-Pass Duct Fan can move air at temperatures up to 550° F.

with insulated motor chamber, heat slinger and monel or stainless steel propeller

450° F.

with insulated motor chamber and aluminum propeller

300° F.

In standard construction with aluminum propeller

Ideal for use with ovens, for oil or gas fired induced-draft boilers and for moving corrosive fumes. Sizes from 19" to 41".

Call your nearby Hartzell field engineer or write for details.

HARTZELL propeller fan co.
Div. of Castle Hills Corp.
Dept. G. PIQUA, OHIO

ENGINEERING OFFICES IN PRINCIPAL CITIES

▲ For more details circle NED-628 L5 on enclosed inquiry slip ▲

WHAT IS YOUR SPEED REDUCTION PROBLEM?

Abart HAS OVER 75 ANSWERS!

You can get the exact speed reducer you want from the complete Abart line. Over 75 types and sizes . . . worm, spur and combinations . . . are available for every service. Horsepowers range from 1/50 to over 400 . . . ratios to 10,000 to 1.

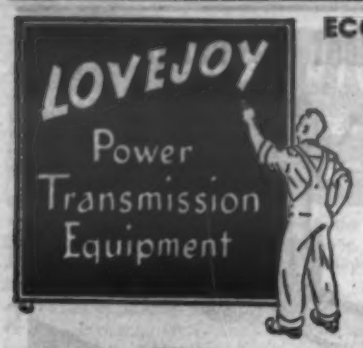
Input or output supplied either side horizontal or above or below vertical.

Easily installed. Oil-tight, compact, infinitely durable and trouble-free.

Get full information today. Request handy pocket-size catalog.

Abart GEAR & MACHINE CO.
Speed Reducers and Gears
4826 WEST 16th STREET • CHICAGO 50, ILLINOIS

▲ For more details circle NED-629 L5 on enclosed inquiry slip ▲



ECONOMICAL IN COST • EASILY INSTALLED • MAINTENANCE FREE

FLEXIBLE COUPLINGS: No lubrication required. Quickly installed. Easily replaced. Cushions are reversible—can be changed or reversed without shut-down. Fractional to over 2400 hp. Light, medium or heavy duty.

VARIABLE SPEED PULLEYS: Quickly installed on new or old equipment. Change speed while machine is running. Ratios to 3 to 1. Fractional to 15 hp.

SELECT-O-SPEED TRANSMISSIONS: Economical as compared to other variable speed transmissions. Instant adjustment over wide range of speeds. Hand wheel or lever control. Ratios to 10 to 1. Fractional to 5 hp.

UNIVERSAL JOINTS: Precision ground. Finest alloy steel. No binding, backlash or end play. 13 sizes, fractional to 207 hp. Bores ⅛ to 2 in. Lengths 2 to 10⅝ in.

TYPES AND SIZES FOR ALL APPLICATIONS. Get full information today. Request catalogs.

LOVEJOY FLEXIBLE COUPLING CO.
4803 WEST LAKE STREET, CHICAGO 44, ILLINOIS

▲ For more details circle NED-631 L5 on enclosed inquiry slip ▲

DRAGERT'S SILI-KOOL HEAT-RESISTANT PAINT

DEFIES TEMPERATURES UP TO 1600°-F

NOW . . . red-hot metal surfaces—stacks, boilers, engines, manifolds, mufflers, exhausts, hot air pipes, etc.—may be effectively protected against corrosion, rust, oxidation, and other deterioration with SILI-KOOL. This Silicone-base, aluminum wonder paint has been rigidly pre-tested to withstand temperatures up to 1600°-F. Yet SILI-KOOL costs less than any other Silicone-base, heat-resistant paint.

But don't take our word for it. PROVE IT TO YOURSELF WITHOUT SPENDING ONE CENT. Send today for free literature or a sample can. No cost; no obligation.

Having supplied industry efficiently for 25 years, we will now be delighted to serve you too.

FREE LITERATURE OR SAMPLE CAN

C. H. DRAGERT COMPANY, INC.
DALLAS, TEXAS Mail Address: P. O. Box 5092-2

Please send ☐ FREE literature and prices on SILI-KOOL
☐ FREE testing sample of SILI-KOOL

Name _____ Title _____
Company _____
Address _____ City & State _____

SOLD ON MONEY-BACK GUARANTEE!!

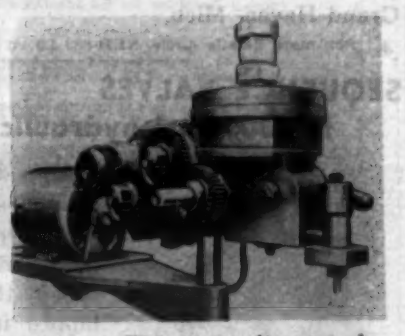
▲ For more details circle NED-632 L5 on enclosed inquiry slip ▲

TUBE TESTER
also check diodes and rectifiers

Quick and accurate evaluation of tubes normally encountered in electronic devices is obtained with the model 750 portable tube tester. The dynamic mutual conductance type instrument also tests series heater-string (600 ma) tubes, germanium diodes and selenium rectifiers. Short test shows up heater cathode leakage condition of a vacuum tube. Compact unit is contained in an 18⅜ x 16¾ x 7½-in. case and weighs 24 lb. Made by **Hickok Electrical Instrument Co.**, 10674 Dupont Ave., Cleveland 8, O.

▲ For more details circle NED-633 L5 on enclosed inquiry slip ▲

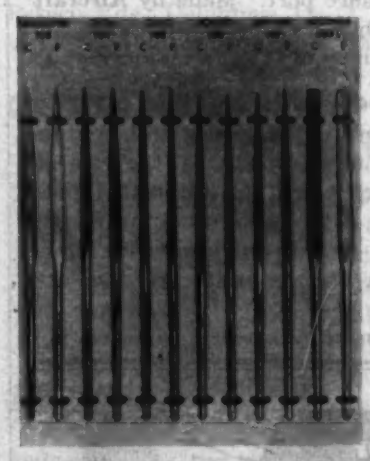
METERING PUMP DRIVE
output adjusted by change gears



Up to 300 cc of viscous material can be delivered in a single discharge by this Robinson metering pump when it is equipped with a new gear train drive. Several hundred quantity adjustments can be made with change gears. This permits an increased range of accurate dispensings with these pumps which are used to seal, pot and cement or fill squeeze tubes, jars, bottles and manufactured items. A dual nozzle which delivers two approximately equal streams and a solenoid control which can be foot operated and remotely controlled by a limit switch on equipment are added features. Made by **Edward E. Robinson, Inc.**, Dept. NED, 95 Park Ave., Nutley 10, N. J.

▲ For more details circle NED-634 L5 on enclosed inquiry slip ▲

SWISS PROFILER FILES
offered in six shapes



Line of precision cut 4-in. files for the Di-Profiler reciprocating hand machine is available in coarse cut and fine cut in equalling, oval, cant, round, square and lozenge shapes. A riffler is available in the oval shape in either coarse or fine cut. File used with the reciprocating tool permits finishing of corners, small areas, grooves and fine contours. Available from **Engis Equipment Co.**, Dept. RR10, 431 S. Dearborn St., Chicago 5, Ill.

▲ For more details circle NED-635 L5 on enclosed inquiry slip ▲

TUBE EXPANDING CONTROL
assures uniform tube rolling

Same expansion of each tube after metal-to-metal contact is assured by this electric control for tube expanding regardless of small variations in size of tube or tube sheets. Control is a torque limiting device for use with any standard tapping motor. It also can be supplied with any of three sizes of tapping motors with built-in reversing gear system and quick change chucks. Equipment includes 10-ft service cord, remote signal light with a 25-ft extension cord and a spare set of fuses. When motor and control are purchased together, three expanders with spare rolls and mandrels are included. Made by **Elliott Co.**, Martin St., Jeannette, Pa.

▲ For more details circle NED-636 L5 on enclosed inquiry slip ▲

PALMER presents an outstanding improvement in DIAL THERMOMETERS

• No Sector
• No Pinion
• No Linkage
• Constant Accuracy
• Easy Readability

external calibration

Full 3½" Dial Face

WRITE FOR BULLETIN 350

PALMER THERMOMETERS, INC.
Norwood Ave., Cincinnati 12, Ohio
Mfrs. of Industrial Laboratory Recording and Dial Thermometers

▲ For more details circle NED-637 L5 on enclosed inquiry slip ▲

More "Cut Through" Resistance with Improved Temflex* 105 Plastic Tubing

Need a tough, wear resistant plastic tubing? New formula Temflex 105 has improved heat deformation characteristics and resistance to "cut through", averaging 20% over older type tubings in standard penetration tests. Better high temperature color stability and lower shrinkage percentages too.

And there's no loss of the remarkable properties that originally made Temflex 105 so popular! Retains high dielectric strength and flexibility after varnishing, baking or high temperature duty. Resists common solvents. UL approved for continuous 105° C operation. Eliminates soldering and cuts assembly costs when insulating transformer leads, relay leads, etc. Fits all standard wire sizes.

Send for literature and test samples.

*T.M. Reg. U.S. Pat. Off.

PLASTICS PRODUCTS
IRVINGTON DIVISION
MINNESOTA MINING & MANUFACTURING COMPANY
14 Argyle Terrace • Irvington 11, New Jersey

1905-1955 Golden Anniversary Year

▲ For more details circle NED-638 L5 on enclosed inquiry slip ▲

Quickly, Accurately with DI-ACRO* PUNCH PRESS

Deep throats—6 and 12 inches—of Di-Acro Punch Presses make them ideal for many operations impossible to perform on most bench presses.

Holes of various shapes and sizes—as large as 4" in diameter in 16 gauge steel—can be punched. Rated capacity, 4 tons. Also power models.

A wide variety of readily interchangeable punch press accessories are available for both production and experimental work. Punches are offered in round, square, rectangular and oval shapes.

*pronounced Die-ack-ro

SEND FOR 32-PAGE CATALOG
Creators of "Die-Less Duplicating"

di-acro PRECISION SHEET METALWORKING MACHINES

O'NEIL-IRWIN MANUFACTURING CO.
354 8th AVENUE • LAKE CITY, MINN.

▲ For more details circle NED-639 L5 on enclosed inquiry slip ▲

Use Parker hydraulic accumulators for less maintenance, longer life

- Piston type . . . compact.
- 3000 psi operating pressure.
- 11 sizes, from 10 to 1155 cubic inch capacity.
- Simple, strong construction.
- Provides steady power, absorbs pressure shocks.
- Permits smaller pump.
- Can function as leakage or thermal expansion compensator.
- Can serve as auxiliary or emergency source of power.

For further details, request Catalog 1536

Parker

Hydraulic and fluid system components

Order from your Hydraulics Jobber—or Industrial Hydraulics Division, Section 251-U, Parker Appliance Co., 17325 Euclid Ave., Cleveland 12, Ohio

▲ For more details circle NED-640 L5 on enclosed inquiry slip ▲

COLD-HEADED PRODUCTS

One interesting feature of several of the items above is that they are roll-threaded on the *short* end — a neat trick that called out some ingenuity on the part of ELCO shop people. ELCO facilities also include an Engineering Service that will help you design — or re-design — your special screws and similar pieces for *lowest-cost* manufacture. *Always consult your ELCO representative.*

COMPLETE LINE OF ELCO PRODUCTS

WOOD SCREWS	THREAD-CUTTING SCREWS	PIPE PLUGS
MACHINE SCREWS	PHILLIPS AND SEMS SCREWS	STOVE BOLTS
MACHINE SCREW NUTS	COLD HEADED PRODUCTS	CAP SCREWS
TAPPING SCREWS		LAG SCREWS
SPECIAL SCREWS		DRIVE SCREWS

"ELCO SCREWS ARE GOOD SCREWS . . . ASK A MAN WHO HAS USED THEM"

ELCO TOOL AND SCREW CORPORATION
1946 BROADWAY, ROCKFORD, ILLINOIS

▲ For more details circle NED-641 L5 on enclosed inquiry slip ▲

ELECTRIC FORK TRUCKS in 3000, 4000 and 6000-lb capacities

Highly stable and maneuverable model FT electric fork trucks are offered in load capacities 3000, 4000 and 6000 lb. Turning radii for these units are 73½, 74 and 81½ in., respectively. Elimination of cowl allows operator to see the load and floor immediately ahead. Trucks feature hydraulic, self-energizing and self-equalizing wheel brakes; parking brake which acts on armature shaft; as well as dynamic breaking with device which prevents abrupt reversal of direction while truck is in motion. Hydraulic brakes are adjustable without removing wheels. Made by **Baker-Raulang Co.**, 1245 W. 80th St., Cleveland 2, O.

▲ For more details circle NED-642 L5 on enclosed inquiry slip ▲

GAS FIRED FORGE burns natural and manufactured gas

Operated on natural, LP, butane or propane gas, this forge unit is especially adaptable to heating or tempering of metals for sharpening, hardening, forming

or shaping purposes. Unit is smokeless, fumeless and odorless. Heat can be taken off either by exhaust fan or stack mounted over forge. Unit has solenoid safety valve which opens when motor is turned on permitting gas to enter forge and preventing backfiring or damage to ⅓-hp 115-v 60-cycle blower unit. Heavy steel hearth is lined with high temperature cement and has four gas jets, two of which can be turned off. Firebox dimensions are 28 x 5 x 4½ in. Fire cement-reinforced hood is raised and lowered with wheel. Made by **Champion Blower & Forge Co.**, Lancaster, Pa.

▲ For more details circle NED-643 L5 on enclosed inquiry slip ▲

Lockout and be Sure!

SAFETY MULTIPLE LOCKOUT

FOR ELECTRIC SWITCH AND FUSE BOXES

Guards against injuries, damage to equipment and work spoilage in that switch may not be thrown until last man has removed his lock.

Sturdily constructed. Accommodates up to six padlocks.

Write for Bulletin No. 95

IPCO *Safety Equipment for all Industries*

INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

▲ For more details circle NED-644 L5 on enclosed inquiry slip ▲

Flexible SPIRATUBE will handle these jobs better . . . and save you money, too!

- √ Materials Handling
- √ Ventilation
- √ Exhaust and Fume Removal
- √ Dust Removal
- √ Blowing
- √ Aircraft Applications

Spiratube®, a neoprene-coated, wire-reinforced fabric ducting, is designed to carry air, other gases, many solids and liquids under pressure, suction or gravity. It is available in diameters up to 30" and is extremely flexible, light in weight, easily retractable and portable.

A Spiratube system can be installed in a very short time. No costly elbows or special fittings are required, since flexible Spiratube bends easily around obstructions or corners, without loss of efficiency.

This Bulletin shows you how SPIRATUBE will reduce production costs! Send for it today. Dept. 2

Flexible Tubing CORPORATION
Guilford, Connecticut • Los Angeles 64, California

▲ For more details circle NED-645 L5 on enclosed inquiry slip ▲

Detects vibration!

MB Probe-type Vibration Pickup offers new tool for maintenance and inspection

With this new MB Type 115 Pickup you can explore frames, bearings, housings . . . *without damping even the faintest vibration.* It lets you pin point the source of such disturbances; tells you when preventive maintenance is needed.

It can also be used for quick, quality-control checkups on the production line . . . lets you know whether products operate within acceptable limits of vibration, and locates vibratory noise sources.

This pickup works electromagnetically. It transforms vibration into voltage. An MB vibration meter is used to give you direct readings of the vibration. Send for more details.

THE MB MANUFACTURING COMPANY
A division of Textron American, Inc.
1066 State Street, New Haven 11, Conn.

▲ For more details circle NED-646 L5 on enclosed inquiry slip ▲

CHECK the advantages

before you put your money on any other . . . . . .

FILTER, MIXER, or MIXING TANK

Clip and mail coupon for latest Catalog

GENTLEMEN:

Please send me FREE, your new catalog, "Liquid Processing Equipment".

Name .....

Company .....

Street .....

City ..... Zone ..... State .....

ALSOP ENGINEERING CORPORATION
1010 EAST ROAD MILLDALE, CONN.

▲ For more details circle NED-647 L5 on enclosed inquiry slip ▲

MEASURING & CHECKING EQUIPMENT *Tailored to your job*

Write for Catalog today

MACHINE PRODUCTS CORP.

Dept. B, 6771 East McNichols Rd., Detroit 12, Mich.

▲ For more details circle NED-648 L5 on enclosed inquiry slip ▲

IF your present conveyors aren't doing a PERFECT job—

INVESTIGATE this amazing NEW CONVEYOR

IF your product is too hot, sharp or oily for belt or flight conveying, or too abrasive or sticky for screw or apron conveying — if you're getting excessive spillage, or if you have cleaning problems, etc. — *you owe it to yourself to investigate the Carrier Natural-Frequency Conveyor.*

These revolutionary conveyors are an entirely new *type* of vibrating equipment which substitutes Natural-Frequency spring action for brute force. Where "brute-force" conveyors may use up to 90% of their power to operate their moving parts and only about 10% to convey their loads, *the Natural-Frequency Conveyor uses substantially no more power to operate, empty, than is required to run the motor alone.*

Carrier Natural-Frequency Conveyors (including vertical vibrating spiral types) are now being used in dozens of the largest companies in America. Write for Bulletin 111, *today.* Carrier Conveyor Corporation, 269 N. Jackson St., Louisville 6, Kentucky.

CHECK THESE CARRIER ADVANTAGES!

HIGH CONVEYING SPEED (Up to 100 feet per minute)

GREATER CAPACITY (Up to 200 tons per hour)

LESS POWER REQUIRED (About one-third as much as "competitive" equipment)

LESS MAINTENANCE & DOWN-TIME (Less power + good design = trouble-free performance)

NO DAMPENING UNDER LOAD (Designed with extra power for specified load, with positive stroke)

SELF-CLEANING (Continuous, smooth trough —no pockets)

COMBINES PROCESSING WITH CONVEYING (Can screen, dry, cool, dewater, blend, etc.)

WIDTHS FROM 6" TO 48" LENGTHS FROM 5' TO 250' (With pans 16 ga to ½" plate, of any metal, open or enclosed)

BALANCED, VIBRATION-FREE UNITS AVAILABLE (For use on ceilings or light floor construction)

CARRIER NATURAL-FREQUENCY CONVEYORS

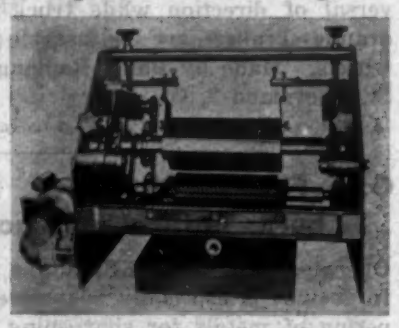
▲ For more details circle NED-649 L5 on enclosed inquiry slip ▲

HYDRAULIC TURRET DRIVE automates hand turret lathes

Adaptable to any standard ram-type turret lathe, Nos. 1, 2, 3, 4 and 5, this standard hydraulic turret drive will help increase production through elimination of hand indexing and traversing. Once set up, operator starts cycle with hand control valve. Master valve then controls required operations in preselected sequences, leaving operator free to inspect and to prepare next piece for chucking. Made by **A. W. Cash Co.**, Dept. NED, Box 551, Decatur, Ill.

▲ For more details circle NED-650 L5 on enclosed inquiry slip ▲

LABORATORY ROLLER COATER produces variety of test coatings



Similar to production roller coaters in the Gasway Line, this smaller laboratory model will reproduce any desired coating for test purposes. Rubber covered steel coating roll is 12⅞ in. long by 6-in. diameter. Unit also has 3-in. steel paint metering roll and 4½-in. chrome-plated backup roll. A ¼-hp motor and speed reducer give machine operating speed of 30 fpm. Unit will coat materials up to 1½ in. thick, ranging from plywood and fiber board to leather products, cardboard and all types of metals. Vinyl films, adhesives, paints, lacquers, varnishes, preservatives, stains and dies are among the coatings currently being applied by unit. Made by **Gasway Corp.**, 6463 N. Ravenswood Ave., Chicago 26, Ill.

▲ For more details circle NED-651 L5 on enclosed inquiry slip ▲

SHOP COAT has unusual pocket features

Among many features of this shop coat, available in regular coat sizes, are swinging breast pocket which keeps contents from spilling out when wearer bends over, and two large pockets with flaps to keep out dirt. Latter have double thick bottoms. Adjustable collar can be worn open or closed to protect shirt and tie. Pen-sectioned breast pocket is deep enough for pencils and small rules. Side vents provide access to clothing underneath. Back is pleated and belted for unhampered movement and tailored appearance. Green, tan, white, blue or gray are available colors. Made by **Can-Pro Corp.**, Dept. NED, Fond du Lac, Wis.

▲ For more details circle NED-652 L5 on enclosed inquiry slip ▲

SINE PLATE 48 x 48-in. power adjusted model

Mechanical raising and lowering of the heavy top plate of this 48 x 48-in. sine plate is electrically controlled. Power is furnished by a 1-hp motor. A hand wheel permits fine adjustment of the top plate on gage blocks or standards. Gage blocks are positioned at both open corners to eliminate dimensional inaccuracies due to distortion. Nonmagnetic unit has tapped holes and T-slots in the top plate for clamping the work piece. Base plate and top plate are Meehanite castings. Top and base plates are scraped parallel within 0.0008-in., and maximum angle setting is 60 degrees. Hardened and ground carburized steel clamping bars are available. Made by **Omer E. Robbins Co.**, Dept. F, 24800 Plymouth Rd., Detroit 39, Mich.

▲ For more details circle NED-653 L5 on enclosed inquiry slip ▲

Really Quiet! You can always *"Hear-Here"* in this Acousti-Booth

And Look

- **No doors** — always fresh air
- **No corners** — to sweep
- **No glass** — to break

Models, size and finish available for any location, such as: manufacturing areas, shipping rooms, power plants, hotels, stores, depots, etc.

Performance Guaranteed

Write for Catalog-Bulletin

Architectural Products Division of

BURGESS-MANNING COMPANY

5968 Northwest Highway, Chicago 31, Illinois

Manufacturers of 3-Way Functional Cubicles and Acousti-Booths for Telephoning

▲ For more details circle NED-654 L5 on enclosed inquiry slip ▲

Now—cut metal 15 times faster than hand hack sawing!

Slice through 1½" cold-rolled steel in 41 seconds—through 3½" lead-sheathed copper cable in 90 seconds! This new *Portable* Band Saw is *fast—two and a half times faster* than bulky power hack saws!

It's light, compact—handles easily, goes anywhere there's a job to be done. *Continuous cutting action* delivers smooth, controlled sawing in any position, even in cramped quarters—on ferrous and non-ferrous metals, "problem" materials.

Saves its cost over and over—send now for complete specifications and performance data.

MODEL 524 PORTA-BAND — ONLY $215
WRITE TODAY FOR FULL INFORMATION

PORTER-CABLE Machine Company
512A N. Salina Street
Syracuse 8, New York

Porter-Cable *Quality Electric Tools*

▲ For more details circle NED-655 L5 on enclosed inquiry slip ▲

For production and maintenance

Plate Mounted Wheels .. *save money* in Carbide Tool Grinding

Less costly than diamond wheels! Especially efficient for roughing, semi-finishing and, frequently, finishing, tool Made to high standards of accuracy. Grind fast and cool. Made to fit all leading makes of grinders. Prompt delivery from stock. Write for bulletin ESA-181.

SIMONDS ABRASIVE COMPANY
PHILADELPHIA 37, PA.
Div. of Simonds Saw and Steel Co.
DISTRIBUTORS IN PRINCIPAL CITIES
BRANCH WAREHOUSES: Boston, Detroit, Chicago, Portland, San Francisco

▲ For more details circle NED-656 L5 on enclosed inquiry slip ▲

Now, ONE Blowpipe Truly Handles ALL Welding and Heating Jobs

The OXWELD W-45 is the only manual blowpipe with a selection of heads (2 to 300 cu. ft. per hr. capacity) capable of handling any oxy-acetylene welding or heating need. Its companion CW-45 Cutting Attachment cuts steel up to 8 in. thick. Additional features such as an exclusive handle shape that reduces fatigue, a spring-lock coupling that permits instant head changes without a wrench, and "O" ring gas seals help to bring you tomorrow's performance standards today. Ask for a demonstration, or write for free booklet, F-8684, today.

Linde Air Products Company
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street UCC New York 17, N. Y.
Offices in Other Principal Cities
In Canada: LINDE AIR PRODUCTS COMPANY
Division of Union Carbide Canada Limited, Toronto
"Oxweld" is a trade-mark of UCC

▲ For more details circle NED-657 L5 on enclosed inquiry slip ▲

Just drill and drive

SEL-LOK SPRING PINS

Drill a hole. Drive a SEL-LOK. These slotted tubular pins lock by spring action. They eliminate costly tapping, reaming, peening or milling operations. They eliminate the losses associated with close tolerances. A full range of diameters and lengths from 1/16"x3/16" to 1/2"x4 1/2" is stocked by industrial distributors. STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

SEL-LOK SPRING PIN DIVISION sps
JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-658 L5 on enclosed inquiry slip ▲

FLOORMOBILE **Suction Cleans** large floors fast!

Up to 20,000 square feet an hour

Gas or electrically powered

dust lint dirt string cloth paper chips soot fly ash

Low Cost DUST CONTROL is now possible for large plants and warehouses because powerful suction lifts *all the dust* from floor surfaces and eliminates it from the atmosphere. Brooms and mechanical sweepers remove only rubbish. FLOORMOBILE collects rubbish and trash as well as dust. FLOORMOBILE is setting new standards of low maintenance costs for hundreds of well-known companies.

New Bulletin 551 gives full details, including case histories. Send for your copy today.

Handling Devices Company, Inc.
45 Pearl Street, Brookline 47, Massachusetts

▲ For more details circle NED-659 L5 on enclosed inquiry slip ▲

PLASTIC FITTINGS & TUBING are hand assembled without tools

Corrosion resistance of line of unplasticized polyvinyl chloride fittings and flexible plastic tubing permits its use in chemical and processing plant instrumentation. Assembly is entirely by hand with only knife or scissors required to cut tubing to length. Fittings withstand maximum working pressures of 150 psi at 75° F and are furnished, as is tubing, in 1/4 and 3/8-in. sizes. Available are half unions for joining plastic to male pipe thread, unions and bulkhead unions for joining plastic to plastic, connectors for joining plastic to female pipe thread and caps. Tubing is unaffected by most acids and alkalies and remains flexible at low temperatures. Made by **Tube Turns Plastics, Inc.**, 2929 Magazine St., Louisville 11, Ky.

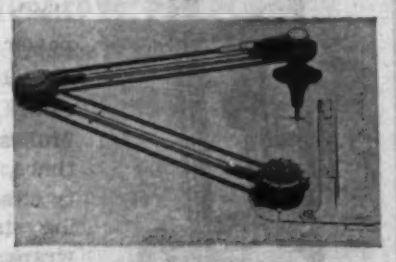
▲ For more details circle NED-660 L5 on enclosed inquiry slip ▲

TEMPERATURE CONTROL uses magnetic amplifier

Temperature setting is adjusted from −10 to 70° F in the Vapor magnetic amplifier temperature control. Developed for railroad refrigerator cars, it withstands the jolts and vibration of railroad use and is applicable to control of various types of mechanical cooling and heating systems. Thermistor thermostat causes the heating-cooling system to keep the car within 1 1/2° F of the predetermined setting. Control is mounted on a 7 1/2 x 9-in. cadmium plated metal base which fits into the refrigerating system electrical panel. Made by **Vapor Heating Corp.**, Dept. PR-124, 6420 W. Howard St., Chicago 31, Ill.

▲ For more details circle NED-661 L5 on enclosed inquiry slip ▲

DRAFTING MACHINE offered in two basic types



T-square, 30, 45 and 60-degree triangles, precision mechanical protractor and scales are combined in the Vemco drafting machine. Coin slot brake adjusting screw requires infrequent adjustment. Standard and civil engineer types of drafting machines are offered, the former for mechanical and architectural drawing and general drafting. It has a single row of figures on the protractor by quadrants. Civil engineer type machine is designed for map making. Its protractor is divided to 1/2-degree, the double vernier reads to 1 minute, and figures are provided by quadrants and from 0 to 360 degrees. Both types can be furnished with 24, 30 or 36-in. arms. Made by **V. & E. Mfg. Co.**, Box 950M, Pasadena 20, Calif.

▲ For more details circle NED-662 L5 on enclosed inquiry slip ▲

LOCK CLAMP pressure adjustable to 2000 lb

Quick clamping and releasing with pressure adjustable from 2 to 2000 lb is provided by the Lightening Lock Clamp which operates on simple screw and nut principle. Operator has only to back screw off one turn, lift the handle, and pull back to release. Clamp is compact and stands only 4 5/16 in. high in release position. Base can be engineered for use on planing machines, drill presses, shapers and milling machines. Tool is usable for metal and woodworking and will operate either vertically or horizontally. Made by **General Alliance Corp.**, 2105 Moore St., San Diego 1, Calif.

▲ For more details circle NED-663 L5 on enclosed inquiry slip ▲

Next time try Chip Board

Gair Pasted Chip Board won't let you down. In fact, the only thing it lowers is your fabricating costs.

Gair Pasted Chip Board is strong and moisture resistant, yet light-weight and *easy to fabricate*. It's ideal for chair seats, bridge tables, TV and radio backs, toys — along with a host of other items . . . maybe yours?

Your Gair Boxboard man has lots of ideas on how Pasted Chip Board can fit into your product picture. What's more, he can supply it to the specifications that fit your fabricating needs.

GAIR boxboard
SPRINGBOARD TO MORE SALES

ROBERT GAIR COMPANY, INC. • 155 EAST 44th STREET • NEW YORK 17, N.Y.

▲ For more details circle NED-664 L5 on enclosed inquiry slip ▲

Money Saver!

this durable
National Hand Dryer
takes the place of millions of towels

SAVES $600 PER YEAR

In the average wash-room one NATIONAL Hand Dryer saves approximately $600 per year. Pays for itself in a few months! Lasts for many years . . . also eliminates messy wash-rooms plus the expense and aggravation of paper-towel-clogged toilets.

And *our dryers dry hands DRY in 20 seconds!* Users say they're great! Let us send you copies of their enthusiastic letters — letters from firms you know. Also full details including our FREE-TRIAL installation offer!

NATIONAL Dryers Proved Best by U. S. Government Test

MAIL THIS COUPON TODAY!

NATIONAL Dryer Sales Corp.
616-18 West Adams Street, Chicago 6, Ill.

Gentlemen: Without obligation send me copies of letters from users, also folder of facts including cost-saving figures and full details on your FREE-TRIAL offer.

MY NAME _____
FIRM NAME _____
STREET _____
CITY _____ STATE _____

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Save Time... Labor... Material with BEVERLY metal cutting SHEARS

throatless SHEARS

Make any cut—straight, irregular, curved. Exclusive design permits turning work any direction while cutting. 4 models—cap. to 3/16".

Inside SLOTTER

Makes cuts up to 8" inside edge of sheet. Sharp, clean burr-free cuts always assured. Cap. 16 ga. High strength aluminum alloy body; H.C.H.C. blades.

slitting SHEAR

New "SS" Series—easier cutting with compounded linkage. 3 models—cap. to 5/8"; trimming capacity to 1/4" mild.

See your Beverly Distributor. Write for FREE illustrated Bulletin.

Beverly SHEAR MFG. CO.

3016 W. 111th STREET • CHICAGO 43, ILLINOIS

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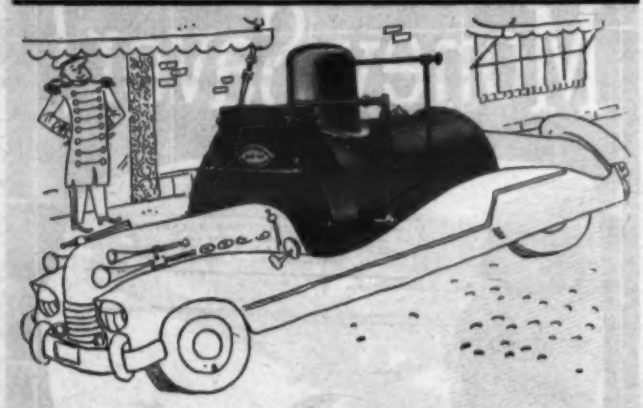


A Boiler Is Not an Automobile

Styling, gadgets and gimmicks may help sell automobiles. But a boiler is a long term investment; reliable performance, low operating costs and long life are the vital considerations. That's why we're sure that if you carefully examine *all* the facts you'll choose a Leffel Scotch-Type Boiler. We'd like to show you the records on many Leffel boilers which have been operating for 30 years or more with only a few dollars spent on maintenance items. Drop us a line today; we'll give you the complete story. Fast.

THE JAMES LEFFEL & CO. Dept. N Springfield Ohio

▲ For more details circle NED-667 L5 on enclosed inquiry slip ▲

Top-Drawer Service
Top-Grade Quality

CORBIN®

SELF-TIGHTENING HOSE CLAMPS

Save time, trouble, and money by using Corbin Self-Tightening Hose Clamps, the original permanent spring-tension clamp that is slipped over the connection . . . and when released automatically provides a positive, everlasting seal.

These Hose Clamps have won such widespread acceptance that virtually every automotive and appliance manufacturer in the U. S. A. is now using them.

Many users claim that when they switched from the older "screw-on" type to these self-tightening clamps, they were able to reduce labor costs by an amount almost equal to the total price they pay for Corbin-Design Clamps.

Stocked for IMMEDIATE shipment in ALL sizes to fit hoses 3/8" to 2 5/8" diam.

Write or phone for complete details. Corbin Hose Clamp Division, The American Hardware Corp., New Britain, Conn.

The Original Manufacturer of Self-Tightening Hose Clamps

▲ For more details circle NED-668 L5 on enclosed inquiry slip ▲

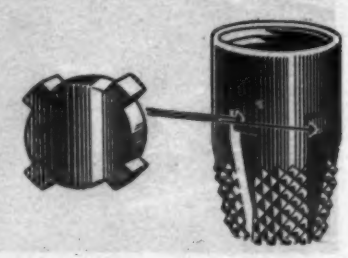
PHOTOCOPYING MACHINE is combination printer-processor

Light source for the redesigned Heccokwik combination printer and processor for dry process photocopying is a 24-in. 20-w fluorescent tube. This longer tube provides uniform illumination over the entire 14-in. exposure width of the rotary printer. Unit is 12 lb lighter than previous model and is more easily serviced and cleaned. A Microset rheostat control provides stepless variation of the lighting over a wide range, giving the operator flexibility in selecting the proper exposure for a particular original to be copied. Stainless steel and aluminum are used extensively to resist corrosion and staining from chemicals. Made by **Hunter Photo-Copyist, Inc.**, 595 Spencer St., Syracuse, N. Y.

▲ For more details circle NED-669 L5 on enclosed inquiry slip ▲

SELF-LOCKING THREAD INSERT usable in molded plastic assemblies

Designed to be placed by hand or machine-fed into molded or drilled holes of plastic cabinets or parts after they are molded, Dodge expansion inserts have torque and pull strength equivalent to that of molded-in thread inserts. This self-contained unit consists of a knurled brass shield and a locked-in spreader. Insert has a full thread to within 1/32-in. of its depth. As the spreader is driven downward, it expands the insert without contact with the threads. Insert is also usable in die castings and in all soft metal assemblies. Made by **Phelps Mfg. Co.**, Box 542, Westport, Conn.



▲ For more details circle NED-670 L5 on enclosed inquiry slip ▲

ALUMINUM HAND TRUCK climbs stairs on ratchet mechanism

Ratchet mechanism enables model 400 Stair Cart to climb up stairs step by step, power being furnished by operator pulling on drive cable. Two-wheel safety brakes control load at all times, minimizing possibility of accident when descending stairs or ramps. Belt wraps around loads both vertically and horizontally, and is tightened by a ratchet wheel. The belt reel can be adjusted to height of the load. Other features include skid rails for easy loading of trucks, padded frame to prevent scratching of load, aluminum construction and large pneumatic tires. Made by **Valley Craft Products, Inc.**, 582 Jefferson Ave., Lake City, Minn.

▲ For more details circle NED-671 L5 on enclosed inquiry slip ▲

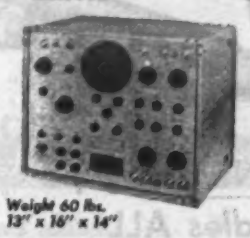
PORTABLE ELECTRIC TOOL is saw, router, jointer and shaper

Especially adaptable to industrial maintenance and light production work, this model 140 portable electric Routo-Jig combines the functions of a jigsaw, router, jointer and shaper table. It is powered by a 115-v universal electric motor which drives the collet spindle at 24,000 rpm in precision ball bearings. Cutter depth gage, graduated in 1/16-in. increments, quickly adjusts for any depth of cut up to 1 in. Hand-fitting handle with trigger switch affords positive control. Complete with shaper table, tool lists for $54.95. Made by **Porter-Cable Machine Co.**, 56 Exchange St., Syracuse 8, N. Y.

▲ For more details circle NED-672 L5 on enclosed inquiry slip ▲

THE LAB PULSESCOPE® BY WATERMAN

MODEL S-5-A



Weight 60 lbs. 13" x 16" x 14"

Video amplifier up to 11 mc . . . Video Delay 0.55 μs . . . Pulse rise and fall time better than 0.1 μs . . . Video sensitivity 0.1v p to p/in. . . . Sweep 1.2 μs to 120,000 μs with 10 to 1 sweep expansion . . . Sweep triggered or repetitive . . . Internal markers synchronized with sweep from 0.2 μs to 500 μs . . . Trigger generator with output available externally . . . Built in precision amplitude calibrator . . . Combination case . . . Operates on 50 to 1000 cycles at 115V AC.

Another Waterman first, a compact, portable wide band pass laboratory oscilloscope with markers that are triggered in synchronism with the incoming signal. Ideal for pulse measurements, such as shape, amplitude, duration and time displacement. S-5-A LAB PULSESCOPE is adaptable to all kinds of electronic work where knowledge of circuit performance is essential. Built in Video delay permits observation of leading edge of triggering pulse. Precision means of amplitude calibration are provided. Sweep can be either repetitive or trigger with 10 to 1 expansion when desired. Internally generated markers, together with Video calibration, provide quantitative data of amplitude, shape, duration and time displacement of pulses. The oscilloscope thus is truly a PULSESCOPE, another Waterman first.

WATERMAN PRODUCTS CO., INC. PHILADELPHIA 25, PA.

CABLE ADDRESS: POKETSCOPE

WATERMAN PRODUCTS INCLUDE:

S-4-A SAR	PULSESCOPE
S-5-A LAB	PULSESCOPE
S-10-B GENERAL	POCKETSCOPE
S-11-A INDUSTRIAL	POCKETSCOPE
S-14-A HIGH GAIN	POCKETSCOPE
S-14-B WIDE BAND	POCKETSCOPE

Also RAKSCOPES, LINEAR AMPLIFIERS, RAYONIC TUBES and other equipment

WATERMAN PRODUCTS

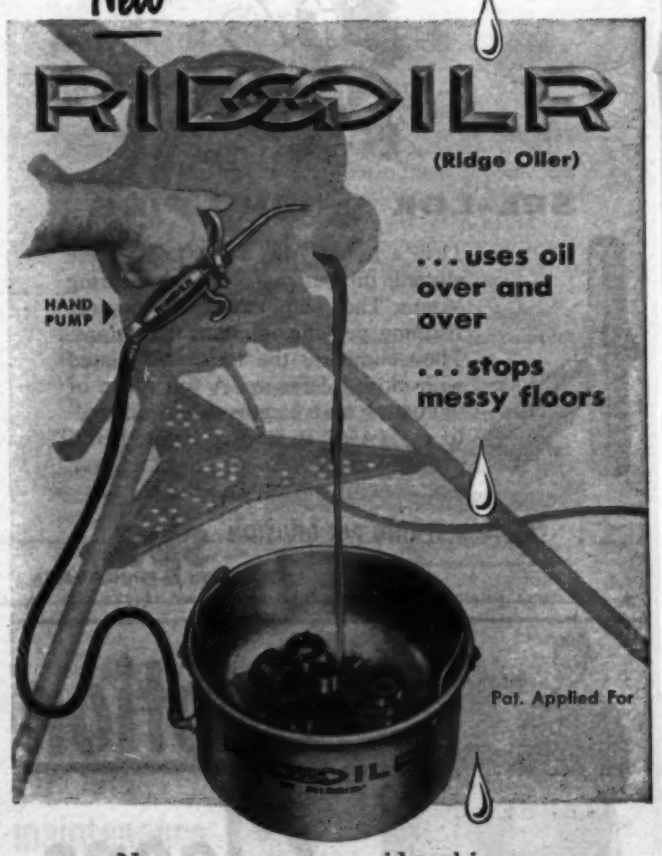
▲ For more details circle NED-673 L5 on enclosed inquiry slip ▲

Another RIDGID First

Gives You

Longer Die Life Better Threads Big Oil Savings

New



New RIDG-OILR provides chip-pan, circulating oil reservoir and hose-connected hand pump-gun, easily carried to any threading job, hand or power. You see the advantages at once—dies can be flooded cool, cut better threads, last longer; oil is double strained and re-used, no waste; no messy floors. Quickly pays back its small cost in oil savings alone! See it . . . buy it at your Supply House. Immediate delivery!

RIDGID Work-Saver Pipe Tools

The Ridge Tool Company • Elyria, Ohio, U.S.A.

▲ For more details circle NED-674 L5 on enclosed inquiry slip ▲

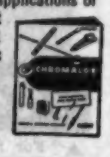
IMMEDIATE DELIVERY
from the World's Largest Stock
CHROMALOX Electric Heaters

Chromalox offers you prompt service from the world's largest factory stock of industrial electric heaters . . . over 15,000 types, sizes and ratings. Local stocks at strategic points throughout the nation.

There is a specific Chromalox Electric Heater to heat liquids, air and gases; for heating platens, dies, molds, moving metal parts . . . anywhere you need fast, clean, economical and easy-to-control heat up to 1100° F.

Let the Chromalox Sales-Engineering staff solve your heating problems . . . electrically.

Write for your copy of Catalog 50
Contains information on complete line of Chromalox Electric Heaters, elements, thermostats, contactors and switches. Gives uses, construction information and prices, plus basic heat calculation data and heat loss charts. For ideas on additional applications of electric heat, request Booklet F1550—"101 Ways to Apply Electric Heat." Write today.



Edwin L. Wiegand Company
A-4447 7509 Thomas Boulevard, Pittsburgh 8, Pennsylvania
See other ad on page 4

▲ For more details circle NED-675 L5 on enclosed inquiry slip ▲

Installation of a 5-ton Cleveland Tramrail crane enabled a company to save on a bundling charge made for smaller bundles of rods, bars and angles it uses. This savings is $2.00 per ton. As 200 tons are used monthly, this amounts to $400 per month. Another saving of 2 man-hours per car is also made because of faster, more efficient unloading.

GET THIS BOOK!
BOOK No. 2008
Packed with valuable information...

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6651 East 285th St., Wickliffe, Ohio

CLEVELAND TRAMRAIL

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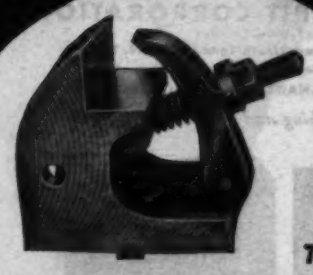
CUT SET-UP COSTS HUNDREDS OF WAYS WITH



HART MILLING FIXTURES

"Masters of A Thousand Set-ups"

Eliminate the need for many special expensive jigs and fixtures.

You will save time and money on most set-ups with Hart Milling Fixtures. They hold round, hexagonal, octagonal or square stock, for miller, shaper, drill press and tapper; they reduce set-up time and speed production. Hart Milling Fixtures are made in four useful sizes, and designed to be used in horizontal or vertical position. Let us send you full description and prices.

Write for illustrated folder

WALTER W. FIELD & SON, INC.
39 Hayward St., Cambridge 42, Mass.

▲ For more details circle NED-677 L5 on enclosed inquiry slip ▲

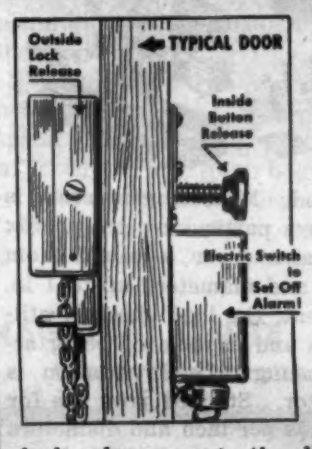
COMPACT BRAKE MOTOR
offered in 1 to 30-hp ratings

Quick stops and positive holding are characteristics of this improved Uniclosed compact brake motor which is built to rerated NEMA specifications. It has a through-shaft for handcranks, tachometers or other accessories. The direct-acting magnetic disk brake can be connected directly to the motor terminals or to a separate power supply. As a safety measure, the brake will set and hold in the event of a power failure or low voltage. Ratings are from 1 to 30 hp. Made by **U. S. Electrical Motors Inc.**, Dept. NED, 200 E. Slauson Ave., Los Angeles 54, Calif.

▲ For more details circle NED-678 L5 on enclosed inquiry slip ▲

INSIDE LOCK RELEASE
opens locked door from inside

Possibility of an employee or tardy visitor being locked inside a plant or office building is prevented by this inside lock release. Device is attached inside the door, gate or window as an extra to the standard emergency lock release which serves a similar function on the outside of the door. Inside release consists of a button which when struck breaks a control glass on the outside of the door. This releases a pin which holds the hasp padlock in place. Door can then be pushed open. Inserting another glass panel in the lock release resets the device. Release can be wired to activate an alarm. Made by **American Allsafe Co.**, 1242 Niagara St., Buffalo 13, N. Y.



▲ For more details circle NED-679 L5 on enclosed inquiry slip ▲

FLUORESCENT LAMP STARTERS
two models improve performance

Fluorescent lamp performance is improved by FS2-NA and FS4-TG starters which are respectively used for 20 and 40-w lamps. Former is intended for installations where high humidity, ungrounded fixtures or low line voltage makes starting hard. It consists of glow switch and heater to operate bimetallic element which automatically opens the circuit after the starter has attempted unsuccessfully to start a defective lamp. The FS4-TG starter, with both a thermal and glow switch, is for preheat fluorescent installations where high voltage conditions instantly start the lead lamp, thereby reducing the life of the lamp. By its thermal action, it provides long preheat time which is conducive to normal lamp life in operation. This starter also has fast restart. Made by **Sylvania Electric Products Inc.**, Dept. A, 1740 Broadway, New York 17, N. Y.

▲ For more details circle NED-680 L5 on enclosed inquiry slip ▲

PORTABLE SPACE HEATER
capacity is 300,000 Btu per hour

Heated air at the rate of 2400 cfm is provided by the Summeraire portable space heater which has a capacity of 300,000 Btu per hour. It throws a continuous stream of heated air over a considerable distance. Burning 2.15 gal of No. 1 or 2 fuel oil or kerosene per hour, the compact unit operates at full blast for 10 hours without refilling. Hot air discharge outlet has 14-in. diameter and is equipped with an adjustable deflector and fittings for attaching 10-foot lengths of fire and water-resistant, asbestos-lined ducts (optional). Safety controls to protect against flame or power failure are incorporated. Electric motor and gasoline engine driven models, the former with or without a thermostatic control, are available. Made by **Clayton Mfg. Co.**, Dept. N, Box 550, El Monte, Calif.

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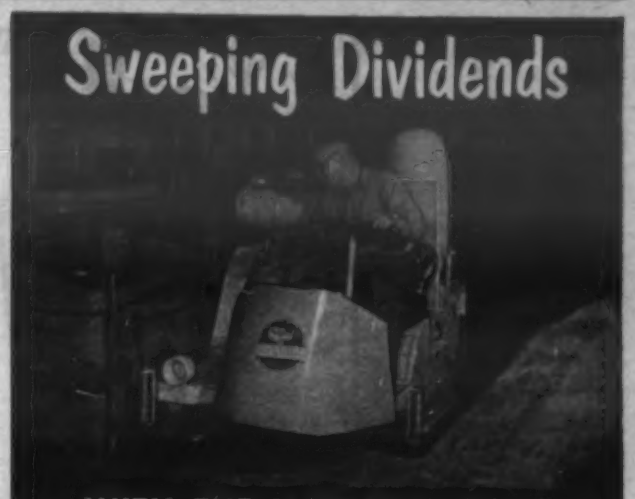
Sweeping Dividends



WITH THE NATION'S No. 1 INDUSTRIAL HOUSEKEEPER

BEFORE YOU BUY ANOTHER BROOM FOR YOUR PLANT —LET US PROVE WITH A FREE DEMONSTRATION THAT

1. A power sweeper will reduce your plant sweeping costs 80%.
2. A *Wilshire* Power Sweeper will out-perform any sweeper on the market.
3. *Wilshire's* nation-wide distributor organization provides you with service *when you need it!*

WRITE FOR BULLETIN A-55 TODAY!

Wilshire
Power Sweeper Company
ELGIN, ILLINOIS • GLENDALE 4, CALIFORNIA

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Industrial Diamonds have been our business for over 67 years

Have you tried quality J. K.;
Diamond Tools
Diamond Grinding Wheels
Diamond Powder
Diamond Lapping Compound?

J. K. SMIT & SONS, INC.
HOME OFFICE AND PLANT
MURRAY HILL NEW JERSEY

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To You Quickly...

In Loss-Proof Indestructible Steel Containers

One of the first problems Southern Screw solved was loss to customers from prevailing methods of fastener shipment. Our proven method insures you full measure in packing, no loss in shipping, easy, safe storage after delivery.

A Billion Screws at Your Service—
From four warehouses

Wood Screws • Stove Bolts • Machine Screws
A & B Tapping Screws • Roll Thread Carriage Bolts
Dowel Screws • Hanger Bolts

Write for free samples and stock list. Box 1360-Q

Warehouses:
New York
Chicago
Los Angeles
Dallas

Southern SCREW COMPANY
STATESVILLE • NORTH CAROLINA

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Does jobs no drill can do...
Does many jobs *better!*

Clark "HOLE-MAKER"

Produces round, true holes in CASTINGS, FORGINGS, BOILER PLATE, THIN SHEET STOCK, PIPE, TUBING, ETC.; Drills CROWNED, CYLINDRICAL, FLAT OR WEDGED SURFACES!

No triangular shaped holes, no grabbing on break-throughs, no "walking" on starts with the Clark "HOLE-MAKER"! Produces full-gauge holes from start to finish. Removable pilot guides HOLE-MAKER straight and true even on intermittent cuts. Will also use pilot drill.

Ideal production tool on TURRET LATHES, CHUCKING MACHINES, RADIAL DRILLS, DRILL PRESSES, PORTABLE ELECTRIC and PNEUMATIC DRILLS. Excellent for rough boring, finishing and trepanning. Cuts all ferrous and non-ferrous metals and other materials. Saves money, replaces large drill inventory... Bores castings, forgings, etc. 3 to 10 times faster than single pointing!

5 ADJUSTABLE SIZES COVER I.D.'s from 1" to 6"
Specify straight shank or MT 2, 3, 4. Other tapers on order.

MODEL	CAPACITY
102	1"–2"
203	2"–3"
304	3"–4"
405	4"–5"
506	5"–6"

When ordering, specify material to be cut.

ROBERT H. CLARK COMPANY
9330 Santa Monica Blvd., Beverly Hills, Calif.

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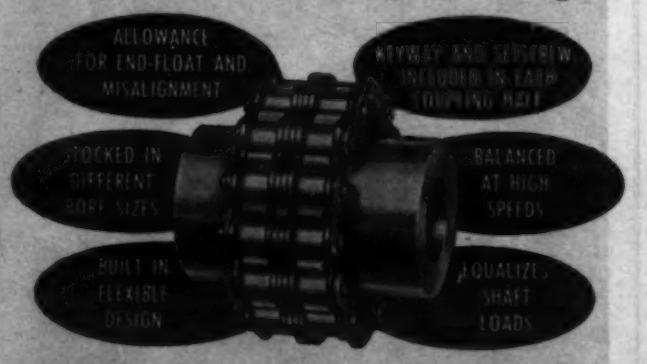
only cullman
FLEXIBLE COUPLINGS
offer you these many advantages



Just three parts are needed — two hardened steel sprockets and a length of Cullman double strand roller chain.

For top performance, economy and long service life specify Cullman Roller Chain Flexible Couplings.

"Off-the-shelf" service on fractional to 500 horsepower ratings.

For full information see your Cullman distributor or write for Catalog 151 TODAY.

cullman
POWER TRANSMISSION
ROLLER CHAINS AND SPROCKETS

REPRESENTATIVES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES
CULLMAN WHEEL COMPANY, 1333 ALTGELD ST., CHICAGO 14, ILLINOIS

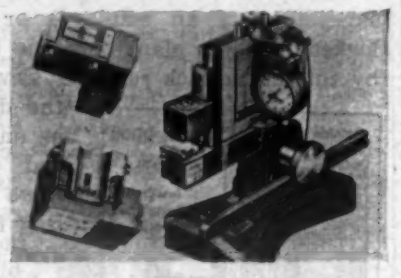
▲ For more details circle NED-686 L5 on enclosed inquiry slip ▲

FLOOR SCRUBBER & POLISHER
equipped with 24-in. brush

Maintenance of large floor areas and long corridors is facilitated with the model SBU 24 Unico floor scrubber and polisher. Equipped with a 24-in. brush, it operates on retractable 5-in. ball bearing wheels. A 1-hp G-E motor operates through a 10-to-1 reduction gear unit to give brush a speed of 175 rpm. Standard solution tank can be attached for wet scrubbing operations. Featured are 90-degree handle adjustment, shockproof switch and 50-ft three-wire extension cable, equipped for grounding. Made by **United Floor Machine Co.**, 7711 S. Chicago Ave., Chicago 19, Ill.

▲ For more details circle NED-687 L5 on enclosed inquiry slip ▲

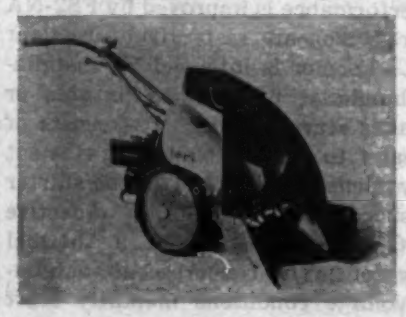
THREAD GAGES
measure pitch diameter and lead



Instruments for measuring pitch diameter and lead checking of threads are available for use with the Versa-Dial gage. Measurement of pitch diameter is basically by the three-wire method. Measuring pressure is adjustable but constant for a particular setting. Six sets of interchangeable jaws cover a range from 56 to 10 threads per inch and diameters up to 1 in. The other contacting element, the load checker, utilizes jaws carrying V-edges and capable of being attached at any desired spacing. Lead variation is read directly on the indicator. Stocked jaws are for pitches from 10 to 40 threads per inch and diameters up to 1 in. Special jaws are available. Made by **Standard Gage Co.**, 200 Parker Ave., Poughkeepsie, N. Y.

▲ For more details circle NED-688 L5 on enclosed inquiry slip ▲

SNOW THROWER
raker bar cuts packed snow



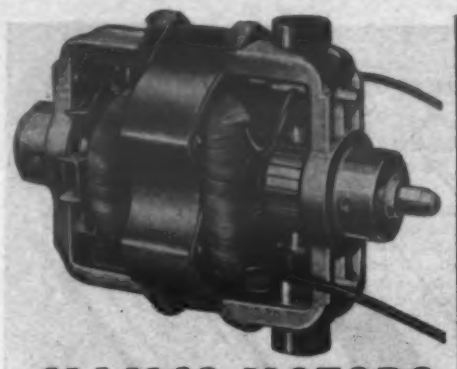
Self-propelled Champion snow thrower, powered by 4-cycle, 2½-hp gasoline engine, has a steel-tooth rotating raker bar that cuts up heavily packed or deeply piled snow. Machine clears a path 20 in. wide through any depth or type of snow, spreading it over a 30-ft strip. Throwing angle is adjustable. Open construction prevents clogging or stalling. Other features include adjustable-height handlebar, independent clutch for easy starting, two forward speeds and 16-in. solid rubber wheels. Made by **Jari Products, Inc.**, Dept. NED, 2990 Pillsbury Ave., Minneapolis 8, Minn.

▲ For more details circle NED-689 L5 on enclosed inquiry slip ▲

LIQUID CHILLERS
packaged 7½ to 50-ton units

Once basic connections are made, units in line of packaged liquid chillers are ready for operation. Refrigeration capacities from 7½ to 50 tons are available. Each unit is shipped with a charge of Freon F-13 refrigerant and a prewired panel box. Control system requires only the power supply. Offered with an enameled jacket, chillers have all parts easily accessible. Made by **Bell & Gossett Co.**, 8202 N. Austin Ave., Morton Grove, Ill.

▲ For more details circle NED-690 L5 on enclosed inquiry slip ▲



MAMCO SWITCHES
Single pole—single throw 6 Amps. — 125 Volts

MAMCO COILS
Built to your specifications

MAMCO BLOWER UNITS
Manufactured to your needs

MAMCO BLOWER WHEELS
Molded nylon — durable. More efficient — economical. Better balance — less vibration

MAMCO MOTORS

Universal motors of fractional horsepowers —also DC motors—6 to 230 Volts—up to 1/5 HP—skeleton frame or full housing, sleeve or ball bearing, series or shunt wound. We have them or build to your specifications.

Mamco motors are standard equipment on many portable tools, small appliances, business machines, projectors, tape recorders, sewing machines, etc. We offer an engineering service in powering your product.

Write today Dept. N

Master APPLIANCE MFG. CO.
RACINE, WISCONSIN

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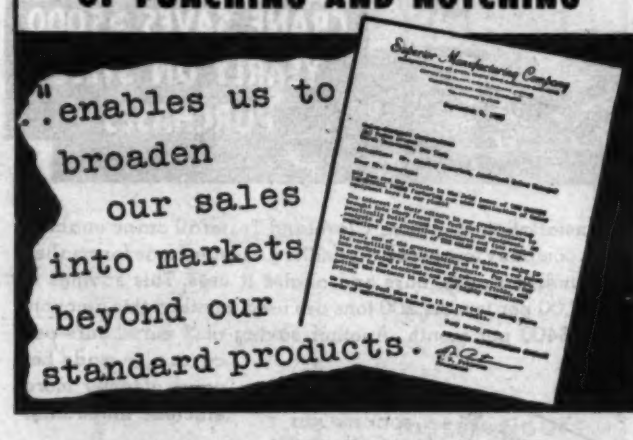
VERSATILITY
The Wales Way
OF PUNCHING AND NOTCHING



"Our business is practically built around the use of Wales equipment", stated D. F. Peterson, President, in commenting on the many advantages which equal in importance the time and cost savings made possible by THE WALES WAY.

In addition to manufacturing steel cabinets, shelving and storage equipment, Superior has been able to tool up for and deliver contract work in volume and at competitive prices, thanks to the versatility of Wales punching and notching equipment.

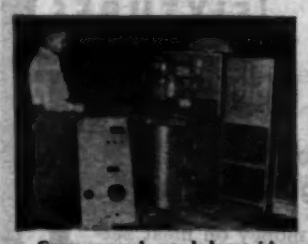
Steel cabinets or shelving...television or what have you,—*you too* will discover pyramiding savings in lowered tooling cost, tool inventory, tool investment and cost per piece.

Wales Analysis Service Reveals Cost Reductions

Men alert to today's necessity for *doing something* about today's rising costs are invited to take advantage of Wales cost Reduction Analysis Service.

A nationwide group of Wales engineers is qualified to study your present methods as contrasted to THE WALES WAY. An appointment incurs no obligation, phone or write today.

WALES-STRIPPIT CORPORATION
George F. Wales, Chairman
563 Payne Avenue, North Tonawanda, N. Y.
(*Between Buffalo and Niagara Falls*)
WALES-STRIPPIT OF CANADA LTD., HAMILTON, ONTARIO
Specialists in Punching and Notching Equipment



Contract work speeded up with versatile Wales Fabricator

THE WALES WAY punches 73 holes in shelving on high production basis.

Wales Punching and Notching Units do man-size job on Superior Cabinets.

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NO. 50 POCKET PAL

$1.00 AT YOUR LOCAL DEALER
CATALOGUE NO. 49 AVAILABLE UPON REQUEST

.030 MATTE FINISH MATHEMATICAL QUALITY DOUBLE-CURED PLASTIC. ALL HOLES SMOOTH-MILLED TO ENGRAVING MACHINE ACCURACY.

ONE OF MORE THAN 30 RAPIDESIGN TIME-SAVER TEMPLATES — ALL OF WHICH ARE BETTER MADE, MORE USEFUL AND LESSER PRICED.

RAPIDESIGN INC.
P. O. BOX 592 GLENDALE, CALIF.

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Delivery Is Important

SPECIFY BISHOP STAINLESS STEEL TUBING

When crucial delivery dates mean a profit or a loss, specify Bishop because you can depend on Bishop's faster delivery dates for quality stainless steel tubing in small diameters (.008"-1").

J. Bishop & Co., the first American manufacturer to successfully draw small diameter stainless steel tubing, has specialized exclusively in the production of high temperature resisting and corrosion resisting steels, nickel and its alloys as witnessed by the great variety of types offered.

The next time, particularly if delivery is important to you, specify Bishop and be *sure!* Catalog on request.

J. BISHOP & CO. • Platinum Works
STAINLESS STEEL PRODUCTS DIVISION, MALVERN, PA.

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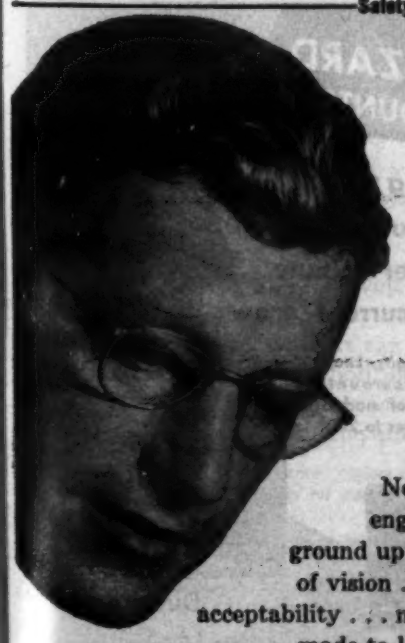
Safety Products Division



Yes it's a Safety Goggle!

NEW AO† F5100
with *"ULTRASCOPIC VISION"*

Newly designed and engineered "from the ground up" . . . greater field of vision . . . greater wearer acceptability . . . many new features . . . made to last longer for true economy. Be sure to see this new metal goggle and new companion plastic model F9500. Ask your AO Safety Products Representative.

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SAFETY PRODUCTS DIVISION

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

▲ For more details circle NED-695 L5 on enclosed inquiry slip ▲

SURFACE PROFILE RECORDER
provides magnified chart record of internal, external machined surface

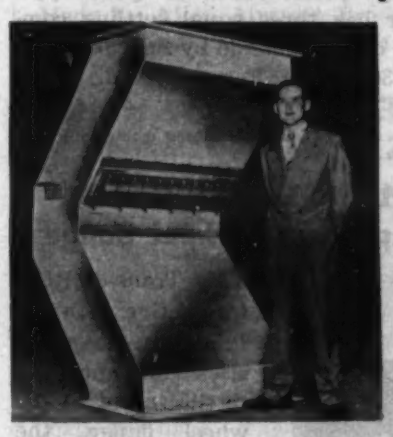
Consisting of a Tracer, a Pilotor and an Amplicorder, this mechanical-electronic Proficorder provides a magnified chart record of the profile of internal and external machined and finished surfaces. Instrument will record waviness, bows, steps and other widely-spaced irregularities, with surface roughness omitted; roughness irregularities alone, with waviness omitted; or combined roughness and waviness profile. Meter shows average height of roughness profile being recorded.

All components are mounted on or in a desk-type console. Piece being profiled is placed on Pilotor base plate, and piloting mechanism moves Tracer in a plane parallel to work surface at 0.005-in. per second, over any length of trace from 1/16 to 1½ in. Six vertical magnifications are provided from 0.000025 to 0.0005-in. per chart paper division. Gear shift lever on recorder chart drive provides seven horizontal magnifications from 0.001 to 0.100-in. per chart paper division.

Pilotor shown has vertical adjustment of 7½ in. and tilt adjustment of 5 degrees each side of horizontal. Tracer enters a ⅛-in. diameter hole to ¼-in. depth and a 3/16-in. hole to 1 5/16-in. depth. Made by **Micrometrical Development Corp.**, Dept. A, 2821 S. State St., Ann Arbor, Mich.

▲ For more details circle NED-696 L5 on enclosed inquiry slip ▲

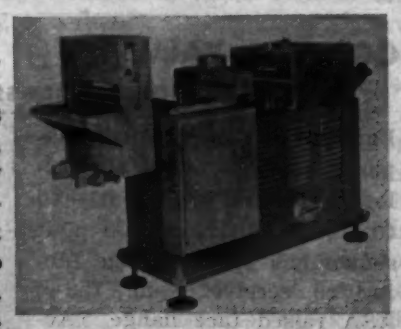
MAGNETIC CHUTE
removes ferrous objects



Ground or finely crushed clay, sand, rock, cement and similar nonmetallic products can be relieved of ferrous nuts, bolts and slivers of metal by this zig - zag magnetic chute. Containing two heavy duty permanent magnetic separators, chutes are so constructed that the material first passes across one magnet, then reverses its direction of travel to pass across the other magnet. It is adaptable to either inclined or vertical material flows. Magnets are hinged so that trapped pieces of metal can be cleaned off by swinging the magnet open. Standard units are carbon steel from 8 to 48 in. wide, but stainless steel is available. Made by **Prater Pulverizer Co.**, Dept. M, 1515 S. 55th Ct., Chicago 50, Ill.

▲ For more details circle NED-697 L5 on enclosed inquiry slip ▲

HYDRAULIC FEED UNIT
for metalworking presses



Stock of any width from ½ to 20 in. can be fed into metalworking presses from right, left, front or back by this hydraulic gripper feed unit. It can be specified to take up to 48-in. stock, feeding within 0.003-in. or less of the selected setting and timed by the press ram stroke. Hydraulic tank assembly serves as the base of the press feed unit and other subassemblies. Front stock guide, rear stock guide, scuff-free gripper assembly, stock retainer, motor and pump assembly, four adjustable floor legs and a control panel comprise the unit. Stock oiler oils both top and bottom of the stock and a pump collects overflow oil for reuse. A pull-through stock straightener is optional. Made by **Sesco Inc.**, 8883 Central Ave., Detroit 4, Mich.

▲ For more details circle NED-698 L5 on enclosed inquiry slip ▲

need help in completing the picture?

Advantageous new uses are being found for felt daily! It's truly the most versatile of all fabrics for no one has ever been able to tabulate all the functions it so ably performs! There's a Continental Felt for every purpose . . . everywhere in daily life . . . and an even bigger place for felt in your future!

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"Introduction to Continental's Magic Carpet" showing how you can use Continental Felt to advantage in your business.

CONTINENTAL FELT COMPANY, INC. 1905
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***Wickwire!* THE QUALITY WIRE ROPE SLING**

A sling is only as good as the wire rope from which it is made. Wickwire Wire Rope Slings are made from Wickwire Rope, the product of a company whose history goes back well over a century. This long experience in the design and manufacture of quality wire rope is applied to the fabrication of Wickwire Wire Rope Slings, making them worthy of the name "Wickwire." This means that Wickwire stands behind *every* sling it sells.

You benefit from our thorough knowledge and experience when you use Wickwire Wire Rope Slings. You are assured of materials of the highest quality. And in using wire rope slings, there can be no compromise with quality. Too much is at stake—the safety of the handling crew, possible damage to costly materials, and loss of productive time.

When you specify Wickwire Wire Rope Slings you get product responsibility that assures safe, efficient and economical service. Wickwire Slings are made from wire rope and fittings with matched rated capacities.

SEND FOR YOUR WICKWIRE SLING CATALOG TODAY

Just write us on your company stationery and we'll rush your copy to you—*free of charge and postpaid.* Our 120-page manual gives complete up-to-the-minute data, with hundreds of explanatory illustrations. It has a tough permanent cover, is fully indexed and handy to use. You'll find it indispensable for quick reference and helpful information when specifying the Wickwire Sling you need for the best in sling service.

2961

WICKWIRE WIRE ROPE SLINGS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

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WICKWIRE SPENCER STEEL DIVISION—Boston • Buffalo • Chattanooga • Chicago • Detroit • Emlenton (Pa.) • New Orleans • New York • Philadelphia

▲ For more details circle NED-700 L5 on enclosed inquiry slip ▲

QUICK ACTION
ON ANY ORDER

Drill Jig Bushings Made to Ex-Cell-O's Precision Standards

—famous for accuracy and long life. Order from one of the largest suppliers in the world; get prompt shipment from Detroit, New York, Los Angeles, or London Ontario.

Your Buyers and Engineers can save time and money by using the Ex-Cell-O Bushing Catalog—the complete bushing guide. Write for a copy today.

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

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STUCK, LOOSE, BROKEN, STRIPPED THREADS?

MAKE SIMPLE, SAME-SIZE REPLACEMENTS

on the spot* with HELI-COIL

Shop-pack

Now you can replace rusted, busted, worn out, torn out threads due to broken bolts, frozen studs, excessive wear, etc., *on the spot*. Drastically cut downtime, mechanics' time, eliminate welding and plugging! *Heli-Coil* Shop-pack gives you an economical, quick means of permanently replacing any thread size from 6-32 to 1½-6 in N.F. and N.C. series (available also in pipe thread sizes)...in any machine tool, engine, vehicle, appliance, building or furnishing you use, operate or service.

All you do is (1) drill out the hole, including stub of broken screw or stud; (2) tap new threads with the *Heli-Coil* tap; and (3) wind in a *Heli-Coil* Insert using the inserting tool provided. The result is a permanent, back-to-original size, stronger-than-ever repair ...made in minutes!

It's as simple and *sure* as that. There is a *Heli-Coil* Shop-pack for every size thread. Each contains a tap, inserting tool and a generous supply of *Heli-Coil* Inserts, and full instructions. Call your supplier or mail the coupon *today* for Shop-pack details.

*Reg. U.S. Pat. Off.

HELI-COIL CORPORATION
711 Shelter Rock Lane, Danbury, Conn.

Please send me Bulletin No. 724A on the NEW Shop-pack.

Name_____ Title_____
Company_____
Address_____
City_____ Zone____ State_____

▲ For more details circle NED-703 L5 on enclosed inquiry slip ▲

SOLDERING GUN TIPS
various sizes and shapes

Soldering gun tip only 1/16-in. thick for use in hard-to-reach locations is one of an assortment of Esico gun type tips. Included are long and short, narrow and broad, straight and curved types. Tips will not bend, anneal or develop surface residue, even though left on circuit beyond normal operating cycle. Easily changed, the tips fit the Luger soldering gun. Made by **Electric Soldering Iron Co.**, 8055 W. Elm St., Deep River, Conn.

▲ For more details circle NED-704 L5 on enclosed inquiry slip ▲

BARREL FINISHING UNIT
one and two-compartment models

Occupying a floor area of 40 x 26 in., the Space-Miser barrel finishing unit is 48 in. high and has a work level of 34 in. above the floor. Barrel is 20 in. long by 14-in. diameter and is shaft mounted on sealed, self-aligning ball bearing pillow blocks. One or two - compartment barrels have work load capacities of 1.9 and 0.95-cu ft, respectively. Motor is ⅓-hp, 110-v, single-phase variable speed type. Sump-settling drawer has three equal settling compartments with drain outlets. Made by **Speed-D-Burr Corp.**, Dept. NED, 3613 San Fernando Rd., Glendale 4, Calif.

▲ For more details circle NED-705 L5 on enclosed inquiry slip ▲

LOCOMOTIVE FLANGE LUBRICATOR
applies compound to wheel flange

This Transall RD-2 locomotive flange lubricator applies stick lubricant right in the throat of the wheel flange, the point at which wear is heaviest as wheel travels around curves, over switches, frogs and cross-overs. Lubricator is mounted on bracket installed on the locomotive frame. Stick compound holder is easily filled by removing cap, dropping in stick and replacing the cap. Guide wheel, riding on wheel flange, assures accurate placement of the No. 3-B compound which is composed of variety of greaseless, nonfriction elements. Both lubricator and compound are made by **Transall, Inc.**, 154 N. Eleventh St., Birmingham 4, Ala.

▲ For more details circle NED-706 L5 on enclosed inquiry slip ▲

CONTROL VALVE
for hazardous process flows

Bantam bellows - sealed diaphragm control valve has bellows rating of 500 psi at −70 to 700° F. No. 2038 unit shown has special flange facing to receive ½-in. 150-lb ASA raised face flange. Action is air-to-close. Valve has Teflon seating, with extra Teflon packing above the bellows. Stainless steel is used in body and bonnet assembly. Leakproof valve is designed for control of hazardous process flows. Air cooling fins or extended neck bonnets can be supplied. Angle and offset types are available with welding, screwed or flanged ends. Made by **George W. Dahl Co.**, 432 High St., Bristol, R. I.

▲ For more details circle NED-707 L5 on enclosed inquiry slip ▲

GENUINE — SIMPLE

SILVER PLATING

"ON THE JOB" WITH POWDER

Purposes of silver plating need not be explained to you of the electrical field.

The biggest problems of silver plating are its convenience, economy and thoroughness. "Cool-Amp" silver plating POWDER is the answer to these problems.

"Cool-Amp" deposits a genuine coat of silver that will not peel off and provides cool maximum conductivity for copper, brass or bronze contacts. It has been proven equal to any electroplating for bolted and stationary contacts and is far more adaptable . . . always ready to use.

"Cool-Amp" POWDER offers a quick and easy solution to heating due to oxidation, improves the continuity of electrical service and reduces maintenance.

"Cool-Amp" is completely harmless to the user and is simple to apply. It can be used by any number of people at the same time. ON THE JOB, in underground vaults and sub stations and in hard-to-get-at places. The only equipment needed is a sharp steel wire brush or abrasive cloth, clean rag and water.

Dampen a rag, dip in "Cool-Amp" and rub on surface. One pound will silver plate approximately 6,000 square inches.

$13.50 PER POUND **SHIPPED PREPAID**

WRITE FOR FREE SAMPLE AND QUANTITY QUOTATIONS

GENUINE • SIMPLE SILVER PLATING

The COOL-AMP Co.

Dept. ED, 8603 S. W. 17th Avenue, Portland 19, Oregon

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"turnover" inserts— "throwaway" buttons— lowered costs...

all features of KENDEX*† tooling

A clamp-on "turnover" insert that doubles the number of cutting edges, and a "throwaway" principle that eliminates all grinding are two big reasons Kendex slices tool cost per cutting edge.

Kendex versatile design cuts initial cost, replacement cost and downtime with these tooling advantages—

- Solid replaceable Kennametal† shims to protect shanks and minimize damages.
- New Chip Control System eliminates grinding of chip breakers.
- Clamps for quick, accurate indexing.
- Clamping forces in same direction as cutting forces—eliminates counter stresses.
- Sturdy holder, with capacity for deep cuts.

Kendex combines all these features to provide higher rates of productivity at the lowest possible cost per piece machined. Available in both negative and positive rakes.

Ask your Kennametal Tool Engineer for copies of Catalog 55 and Characteristics Book B-111, or write to KENNAMETAL, INC., Latrobe, Pa.

*Patent applied for
†Registered Trademark

7274

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Give your machines the tools they deserve ...the BEST

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New SUPER-WIZARD ELECTRIC COUNTERS

featuring—

- 200 Million Count Life
- 1000 Counts per Minute
- Only 5 Watts current draw

Available with 4 or 6 digits, knob or key reset, in Basemount, Panelmount and Dustproof models for all AC and DC voltages to 220.

Send for Catalog or tell us what you want to count.

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PRODUCTION INSTRUMENT COMPANY
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AMERICAN MONORAIL PEDESTAL JIB

Here's the answer to economical local handling service to process machines, particularly beneath heavy mill type cranes... it's the American MonoRail Pedestal Jib. These jibs are recommended for capacities between 500 to 4,000 pounds, headroom 9 and 12 feet, and boom length 8 and 12 feet... a truly precision built, skillfully engineered job.

Turn to American MonoRail for any overhead handling requirements. Your American MonoRail engineers will be glad to consult with you.

For any MonoRail application write for Bulletin C-1

AMERICAN MONORAIL COMPANY
OVERHEAD HANDLING EQUIPMENT
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[IN CANADA—CANADIAN MONORAIL CO., LTD., GALT, ONT.]

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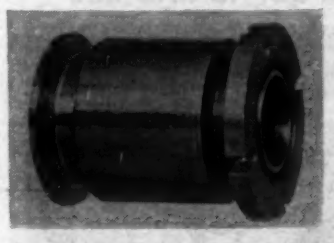
ALUMINUM CONSTRUCTION SHED
weatherproof unit erected quickly

This weatherproof Aluma Shed construction hut can be erected in less than an hour and taken down easily for removal to next location. Hut is built of corrugated sheet aluminum, aluminized angle iron and zinc-dipped bolts and nuts. It can be spiked or bolted to earth, concrete or other solid base. Provision is made for locking, drop-in floorboards. Door can be securely locked. This model 107S measures 4 x 6 x 6½ ft. Made by **Leighton Products**, Dept. NED, 104 Greenleaf St., Rochester 9, N. Y.

▲ For more details circle NED-713 L5 on enclosed inquiry slip ▲

TWO-WAY FLOW VALVES
for aircraft oils, fuels or air



Light weight and small envelope are featured by line of two-way flow valves for aircraft oils, fuels, air or fuel vapors. Concentric flow pattern of the line-mounted valves gives excellent flow-pressure characteristics with minimum spread between cracking and reseat pressures. Current sizes are 1¼ and 2 in. with illustrated fittings and standard 10056 fittings. Other sizes can be ordered. Units are made from aluminum alloy, and contacting surfaces are electrofilmed to provide lifetime lubrication. Bonded seals are used throughout. All models have working pressure of 60 psi, proof pressure of 120 psi and will operate in ambients from −65 to 160° F. Made by **Allen Aircraft Products, Inc.**, Ravenna, O.

▲ For more details circle NED-714 L5 on enclosed inquiry slip ▲

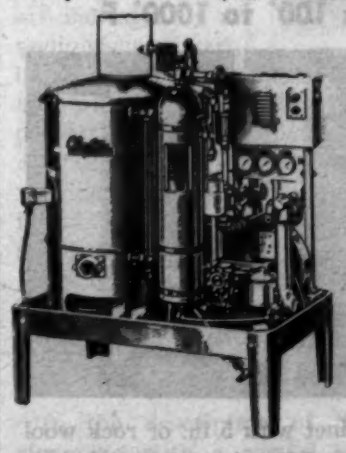
BENCH WIRE STRIPPER
handles No. 10 to 20 wire gages

Wire gages from No. 10 to 20 are handled by this bench mounted DBS No. 2, semiautomatic wire stripper, capable of stripping up to 3000 wire leads per hour. The 90-lb unit operates mechanically and strips by means of cam and pin clutch. It is powered by ¼-hp, 1740-rpm motor. Gears are totally enclosed and run in oil. Laying of wire end into slot in front guard starts stripping cycle. Stripping length from ⅛ to ⅝-in. is adjusted by control knob. Made by **Artos Engineering Co.**, 2751 S. 28th St., Milwaukee 46, Wis.

▲ For more details circle NED-715 L5 on enclosed inquiry slip ▲

STEAM GENERATOR
15-hp recirculating type

Balanced feed, whereby cold water entering the system from the supply source is never admitted directly to the coils, is a feature of this 15-hp recirculating steam generator.



As steam is taken off and the hot water in the accumulator drops to a fixed level, an automatic control admits unheated feedwater into the accumulator. Feedwater is subjected to thermal shock which encourages precipitation of solids. An automatic blow-down skimmer operates automatically while the feed pump is working to discharge concentrates and residues from the system. The automatic generator requires no foundation or auxiliaries and is thermostatically controlled. Four models are available. Made by **Clayton Mfg. Co.**, Dept. N, Box 550, El Monte, Calif.

▲ For more details circle NED-716 L5 on enclosed inquiry slip ▲

Multigrip... on guard against plant accidents

● USS Multigrip Floor Plate has *flat-topped* risers with multiple edges that help feet and wheels grip the floor as they move. Traction like this can eliminate slipping accidents on plant stairs, aisles, ramps and entire floor areas . . . even when they're wet or oily! Safe-tread Multigrip is easy to install and keep clean. It lasts for years without chipping, cracking or splintering. Safe-tread *all* of your plant danger spots – all your heavy traffic areas with USS Multigrip. It may be used structurally or as a covering.

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COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA.
UNITED STATES STEEL SUPPLY DIVISION, CHICAGO
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS **multigrip** FLOOR PLATE

Sold by leading distributors from coast to coast

UNITED STATES STEEL

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THE SAFE WAY
to change lamp bulbs is with McGILL® adaptable lamp changers

You keep your feet on the ground even when you're changing lamp bulbs up to 30 feet above the floor with the McGill Adaptable Lamp Changer. Lightweight steel pole is furnished in 5' insulated sections that lock together securely by spring-actuated buttons. Several style heads available for virtually any size, shape and type of bulb.

Send for McGILL Catalog No. 49-A

McGILL MANUFACTURING CO., INC. 111 N. Campbell St. Valparaiso, Indiana

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Send for FREE sample kit today. Discover how to cut costs, speed output with rugged, low cost Upson Wood Fiber parts and cut-outs.

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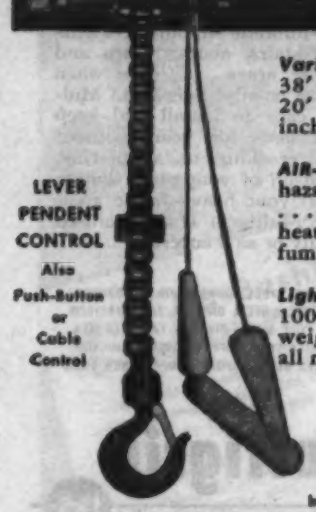
Variable Speed
AIR HOIST



LEVER PENDENT CONTROL
Also Push-Button or Cable Control

Variable Speed . . . 1000 lbs., 0 to 38′ per minute . . . 2000 lbs., 0 to 20′ per minute . . . load can be inched or zipped.

AIR-powered for Safety... no spark hazard . . . explosion-proof motor . . . can't burn out . . . can't overheat . . . unaffected by dust or fumes.

Lightweight . . . only 28½ lbs. for 1000 lb. hoist . . . 2000 lb. hoist weighs only 47 lbs. Overall length all models, 10½″ to 11⅛″.

See your ARO Distributor

The Aro Equipment Corporation
Bryan, Ohio
Offices in All Principal Cities
In Canada—Aro Equipment of Canada, Ltd.
Toronto, Ont.

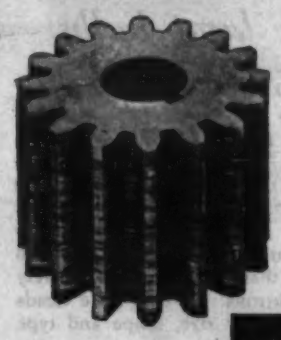
ARO **AIR HOIST**

Also . . . Air Tools . . . Lubricating Equipment . . . Aircraft Products . . . Grease Fittings

▲ For more details circle NED-720 L5 on enclosed inquiry slip ▲

C/R GEARS
SILENT
SOAK UP SHOCK LOADS
SAVE MACHINES

RAWHIDE, PHENOLIC, NYLON

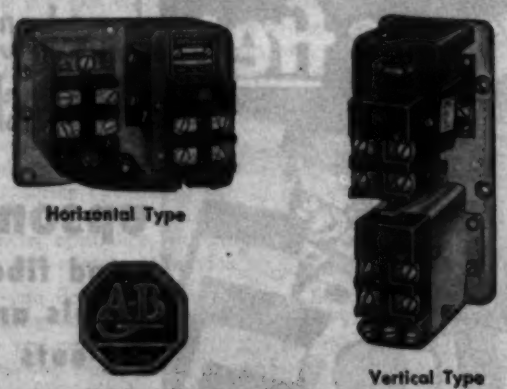


They're extremely tough and have high fatigue resistance. Meshed with metal gears, C/R rawhide absorbs severe shock loads, saves expensive drives, transmits high efficiency power quietly . . . reduces machine noise, worker fatigue. Special gears made of many other materials such as Fabroil, Micarta, Textolite, and metal.

Write today for "C/R Gears & Pinions."

CHICAGO Rawhide MFG. CO.
1301 Elston Ave., Chicago 22, Ill.
In Canada: Super Oil Seal Mfg. Co., Ltd., Hamilton, Ontario

▲ For more details circle NED-721 L5 on enclosed inquiry slip ▲



Horizontal Type

Vertical Type

The Sign of QUALITY Motor Control

RELIABLE PNEUMATIC TIMERS

Bulletin 849 Pneumatic Timers have a timing range from ¼ second to 3 minutes with an accuracy of ± 10%. They can be supplied to provide either ON-delay or OFF-delay control. Available in many styles and contact arrangements, and in NEMA type 1, 4, 7, and 13 enclosures. Send for Bulletin 849.

Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada—Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
MOTOR CONTROL

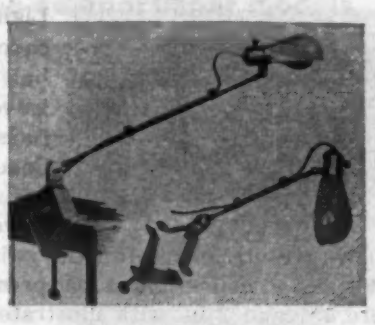
▲ For more details circle NED-722 L5 on enclosed inquiry slip ▲

CROSS-BELT MAGNETIC SEPARATOR
removes tramp iron from conveyor

Discardo cross-belt magnetic separators remove tramp iron and automatically discharge it away from the flow of material on a continuous operation. Unit is suspended up to 4 in. above a conveyor belt, chute or sorting table. The Alnico V permanent magnets create a deep powerful magnetic field that pulls magnetic particles out of the material flow. Contaminating iron is attracted to the magnet face where a cleated endless belt carries it to one side and discharges it away from the conveyor or chute. Various sizes, powered by an integral motor-reducer, are offered. Made by **Stearns Magnetic, Inc.**, 653 S. 28th St., Milwaukee 46, Wis.

▲ For more details circle NED-723 L5 on enclosed inquiry slip ▲

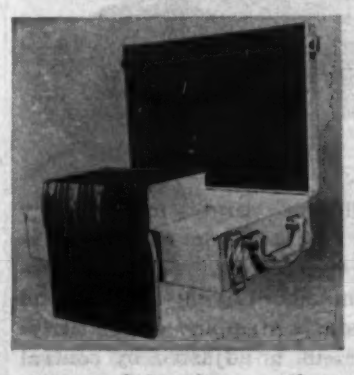
MACHINE & WORK LIGHT
adjusts to any desired position



Improved clamp of this adjustable Wonderlight permits mounting it on any bench, table or machine surface as well as clamping it on round or square columns or brackets. It can also be fastened on any flat surface with bolts or screws. Universal ball swivels at mount and at lamp have adjustable tension to retain position once lamp has been adjusted to light work or desired area. Arm is 19 in. long. It is equipped with a UL-approved 7-ft cord and switch socket. Shade is also adjustable. Made by **Pak Co.**, Dept. N, 1693 Lockwood Ave., Cleveland 12, O.

▲ For more details circle NED-724 L5 on enclosed inquiry slip ▲

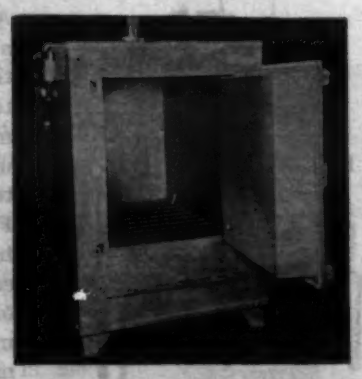
PORTABLE PHOTOCOPIER
copies written or printed material



Size of this 12½-lb portable photocopy unit permits carrying it in a briefcase. Anything written, printed, typed, drawn or photographed, in color or black and white, can be exposed by placing the original in the photocopier with a sheet of sensitized paper and turning on the switch. Copying surface is 9½ x 14¾ in. Storage compartment within the printer protects exposed negatives until they can be developed. It operates on alternating or direct current. Made by **Copease Corp.**, Dept. N, 270 Park Ave., New York 17, N. Y.

▲ For more details circle NED-725 L5 on enclosed inquiry slip ▲

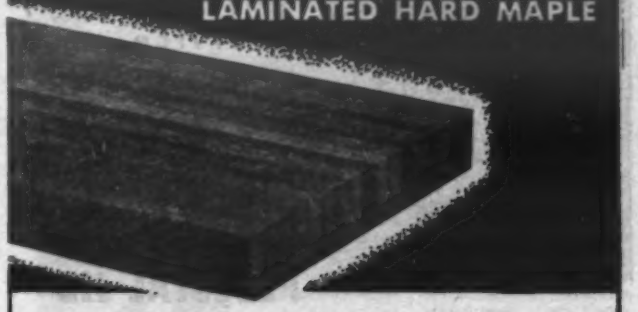
GAS-FIRED OVEN
adjustable from 100° to 1000° F



Burning off old insulation on electric motors and baking on new varnish after rewiring are uses for this gas-fired oven. It has a temperature control adjustable from 100 to 1000° F and a work space of 26 x 30 x 30 in. Construction consists of a steel cabinet within a cabinet with 5 in. of rock wool insulation in between. Gas burners are at the bottom and a heavy duty grate is built in over the heating system. Drip pan is removable from the exterior for cleaning. Oven can be built for electric heating. Made by **Grieve-Hendry Co.**, 1408 W. Carroll Ave., Chicago 7, Ill.

▲ For more details circle NED-726 L5 on enclosed inquiry slip ▲

BENCH TOPS
LAMINATED HARD MAPLE



Tolco bench tops are the first choice of the country's leading industries. They are "industry proven" for assembly benches, laboratory tables, cutting tables, workbenches and packing tables. Select pieces of ¾″ Northern, hard maple laminations are electronically glued into a solid maple top. No soft wood cores—will not chip—easy and inexpensive to refinish. Full range of sizes. Sold by better distributors everywhere.

WRITE FOR NEW TECHNICAL LEAFLET AND PRICES.

THE TOLERTON COMPANY
P. O. BOX K658 • ALLIANCE, OHIO
ESTABLISHED 1894

▲ For more details circle NED-727 L5 on enclosed inquiry slip ▲

A new dimension in motors!

SHORTER

Century

Performance Rated© MOTORS
SAVE SPACE...
SAVE WEIGHT

This new line of shorter, round-frame, end-mounted motors by Century can give you greater freedom in design and engineering. They meet modern demands for compactness and weight-saving . . . with even better performance.

No special mountings are required! These shorter Century motors have full-size NEMA "D" flanges. They are interchangeable with all other popular makes of standard end-mounted motors. The shorter motors are available in sizes from 1 to 15 H.P. . . in open or totally enclosed fan-cooled frames . . . for vertical or horizontal applications.

For full data, call your nearest Century Sales Office, or authorized distributor.

Performance Rated© Motors 1/20 to 400 H. P. 34A

CENTURY ELECTRIC COMPANY
1806 Pine St. • St. Louis 3, Missouri
Offices and Stock Points in Principal Cities

▲ For more details circle NED-728 L5 on enclosed inquiry slip ▲

Send for this Positive Proof that

NEW Permite RUST-BLOK KILLS RUST!

This new bulletin contains test panel results . . . proves the extra effectiveness of Permite Rust-Blok Inhibitory Aluminum Coating . . . shows how it prevents rust growth under the paint film, gives you twice the life of the average one-coat job.

Write for free copy and name of your Permite Distributor.

Permite Paints | ALUMINUM INDUSTRIES, INC. Cincinnati 11, Ohio

▲ For more details circle NED-729 L5 on enclosed inquiry slip ▲

for a complete Metal Sawing Blade Service

Any metal saw will perform better with MARVEL BLADES because:

MARVEL High-Speed-Edge Hack Saw Blades are both high-speed and *positively unbreakable.* Composite construction (high-speed-steel cutting edge welded to tough alloy body) permits higher cutting speed, heavier feeds, tauter tensioning and assures long blade life.

MARVEL High-Speed-Edge Hole Saws have extra strength needed for drill press and lathe use. Rapidly cuts holes from ⅝" to 4½" dia., to depth of 1½" in steel.

MARVEL Band Saw Blades come individually boxed—protected against kinks or rusting—to exact size for each make and model sawing machine.

Write for MARVEL Saw Blade Catalog

MARVEL SAWS

ARMSTRONG-BLUM MFG. CO.
"The Hack Saw People"
5700 Bloomingdale Ave. Chicago 39, U. S. A.

▲ For more details circle NED-730 L5 on enclosed inquiry slip ▲

ELIMINATE TRASH and LITTER HAZARDS!

New

WITT Push-Top Lid

CONVERTS REFUSE CANS INTO LOW-COST, SELF-CLOSING WASTE RECEPTACLES

• Fast, easy waste disposal • 3 sizes fit most standard Cans • Heavy-duty WITT Perma-Zinc steel construction • Double spring, strong tension hinge • Fits Cans snugly, yet easy-to-remove.

WRITE FOR LITERATURE AND NEAREST DISTRIBUTOR

WITT CANS HAVE THE "RIGHT" ANGLE

WITT Cans "Originators of the Corrugated Can"
THE WITT CORNICE COMPANY
2124 Winchell Avenue Cincinnati 14, Ohio

▲ For more details circle NED-731 L5 on enclosed inquiry slip ▲

DEEP WELL EJECTOR
usable with centrifugal pump and jet systems

Light in weight and unaffected by water conditions, the PVC deep well ejector is designed for use with jet and centrifugal pumping systems. It can be used with polyvinyl chloride rigid pipe and polyethylene tubing, now commonly used in deep wells because of ease of installation. Made of rigid unplasticized polyvinyl chloride, the ejector is threaded and easily attached to rigid or flexible tubing. It is nontoxic and will cause no slime, algae or scale build-up. The unit is designed to preclude breakage of connections. Made by **Eastman Atlantic Mfg. Co.,** Wilmington, Del.

▲ For more details circle NED-732 L5 on enclosed inquiry slip ▲

DRILL-TAPPER
multiple spindle small hole unit can drill or tap up to eight holes

Universal joint head on the Cleveland Jr. multiple spindle drill-tapper provides flexibility in bolt circles and arrangement of spindles. It drills eight holes up to No. 25 or taps eight holes up to No. 10-32 in mild steel at one operation. Larger holes can be drilled or tapped in more readily machinable material or where fewer tools are used. Machine has a spindle speed of 2700 rpm and operating speed of 1200 strokes per hour.

Spindles are adjustable to a minimum spacing of ¾-in. within an 8-in. bolt circle. Fixed center heads or adjustable heads with fewer than eight spindles are available. Stroke is 4 in. and head is adjustable up and down to provide clearances between spindle nose and table from 1 to 12 in. Adjustable stops change direction of motor at top and bottom of tapping stroke. Machine can be furnished with an air lift and Hydrocheck for fully automatic operation. Made by **Cleveland Tapping Machine Co.,** 1207 Camden Ave., S.W., Canton 6, O.

▲ For more details circle NED-733 L5 on enclosed inquiry slip ▲

BAR & TUBE TESTER
inspects stainless bar and tubing

Nonmagnetic stainless steel bars and tubing, both seamless and welded, can be inspected for flaws and defects by this nondestructive electronic testing equipment. Such defects as cracks, seams and slivers are indicated by an audio-visual warning system. In seamless and welded tubing, defects both on inside and outside diameters, as well as imperfect welds, are indicated. Differences in chemical composition and cross-sectional dimensions are likewise detected. A meter and oscilloscope are provided in addition to warning system. Testing speed is about 200 fpm. Made by **Magnetic Analysis Corp.,** Dept. NED, 42-44 Twelfth St., Long Island City, N. Y.

▲ For more details circle NED-734 L5 on enclosed inquiry slip ▲

CORRECTION

In the description of the new Edge-Grip steel strapping with a curved edge, (*Item NED-244 J5, Sept. '55*) it was erroneously stated that this strapping was made in ⅜-in. width of 20-gage steel. This banding material for paper rolls and similar products is actually available in ⅜-in. width by 0.020-in. thick steel. Made by **Allegheny Steel Band Co.,** Dept. N, Box 716, Pittsburgh 30, Pa.

▲ For more details circle NED-735 L5 on enclosed inquiry slip ▲

If Additional Steam Is Your Need . . .

VAPOR MODULĀTIC VERTICAL STEAM GENERATOR

IS YOUR SIMPLEST ANSWER!

160 h.p. takes no more space than a watchman's cot. Just set for the volume and pressure you want—Modulātic does the rest. Clean. Quiet. Efficient. Passes complete through plant-type doorways. Needs no special foundation, no separate enclosure, no expensive stack. Seven sizes: 18 to 160 h.p. Pressures: 5 to 285 psi., and more. Oil, gas, or combination burner. Over 10,000 in use. The same dependable steam supply Diesel Streamliners use now can be yours for heating, power, or processing.

Ask for BULLETIN 586

VAPOR HEATING CORPORATION
80 E. Jackson Blvd., Chicago 4, Ill.
In Canada: Vapor Car Heating Co. of Canada, Ltd., 65 Dalhousie St., Montreal 3

▲ For more details circle NED-736 L5 on enclosed inquiry slip ▲

TORRINGTON *delivers small precision parts promptly*

"On time" shipments of Torrington small precision metal parts will keep your production lines moving.

Special automatic machinery of our own design, plus almost 90 years of precision metalworking experience, enables us to produce your small precision parts *faster, better and for less* than you can make them yourself. And we follow your specifications *exactly* on tolerances, temper, hardness and finish.

Send a sample part or blueprint for our quotation. Our Condensed Catalog illustrates many of the parts we can produce for less. Ask for it.

THE TORRINGTON COMPANY
Specialties Division
808 Field Street, Torrington, Conn.

TORRINGTON SPECIAL METAL PARTS

Makers of Torrington Needle Bearings

▲ For more details circle NED-737 L5 on enclosed inquiry slip ▲

THERE ARE MANY REASONS WHY THIS

THOUSANDS ARE USING IT!

BIG, RUGGED JOHNSON BAND SAW

MORE ARE ADOPTING IT EVERY DAY!

HAS CREATED SUCH A GREAT DEMAND!

Progressive plants everywhere prefer Johnsons because of their greater efficiency, speed, extreme accuracy and dependability. Model J is the one outstanding cut-off saw that assures users the most in labor saving and high production at a surprisingly low investment cost. The most modern machine offered today. Compare its advanced features, its CAPACITY, STRENGTH, 3-POINT SUSPENSION AND SAFETY and you'll buy a Johnson Saw.

Wet Model for Production Cutting—Dry Model for Run-of-Mill Cutting

SEND FOR CATALOG AND NAME OF LOCAL DEALER

JOHNSON MANUFACTURING CORP.

BARNES & TAYLOR STS. ALBION, MICHIGAN

▲ For more details circle NED-738 L5 on enclosed inquiry slip ▲

SPACE SAVER

THAT'S

POWER PACKED!

S-N MODEL 5108

REVERSING TRANSMISSION

up to 8 H.P.

in a single unit for quick, smooth reversing *under full load*

This remarkable new type of reversing transmission—by one of the world's most famous gear makers—offers the design engineer a wider latitude in transmission performance, as well as new economies in materials and assembly, heretofore unavailable with ordinary transmissions. Its application is practically unlimited, thereby increasing the versatility of the equipment in which it is installed—particularly in materials handling equipment, farm implements and construction machines. There's no doubt about it. You can't afford to overlook these exclusive S-N features and savings. You can use them and so can your customers!

Our 50 years of specialized knowledge and experience as gear designers and manufacturers is at your service. Why not let us help you with your problems? Write today for our new Model 5108 folder or specify your needs, stating application, input and output speeds desired, H.P., power source, equipment to be driven.

SNOW-NABSTEDT

Transmission Engineers

FOR NEARLY HALF A CENTURY

INDUSTRIAL DIVISION

THE SNOW-NABSTEDT GEAR CORP., HAMDEN, CONN.

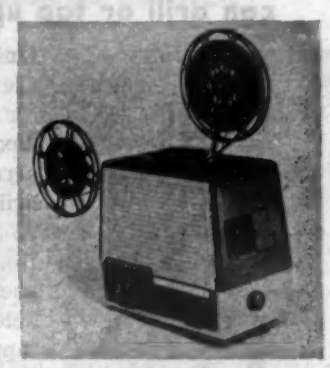
▲ For more details circle NED-739 L5 on enclosed inquiry slip ▲

EMERGENCY LIGHT SYSTEM
turned on by power failure

Two sealed beam floodlamps of the Reddi-Lite self-contained emergency lighting unit automatically turn on the instant normal lighting is interrupted. These UL-approved units, including floodlamps, measure 11½ x 6½ x 14½ in. and weigh 13 lb less battery. No installation or special wiring is required, as the 6-ft cord is plugged into any 110-115 v ac outlet. Red neon pilot light burns continually to show that current is connected. Built-in equipment tests both the storage battery and lights. Made by **American Emergency Lighting Co.**, Dept. NED, 1324 Locust St., Philadelphia 7, Pa.

▲ For more details circle NED-740 L5 on enclosed inquiry slip ▲

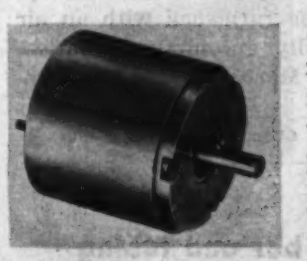
MOTION PICTURE PROJECTOR
high sound volume at low voltage



Reserve gain to compensate for variation in film prints and to assure full sound volume in low voltage areas is feature of the Filmosound 385, a 16-mm sound motion picture projector. Added power, not needed for normal operation, is four times that of previous models on low voltage and is obtained from a 15-w amplifier. Projector is equipped with an 8-in. speaker and can be used with a 12-in. and the 8-in. speaker. When used as a public address system, both broadcast type microphones and crystal phonograph record player can be used. Gear drive machine uses a 1000-w lamp, projects silent and sound film, operates in forward or reverse and can be stopped to project a single picture. Made by **Bell & Howell Co.**, 7100 McCormick Rd., Chicago 45, Ill.

▲ For more details circle NED-741 L5 on enclosed inquiry slip ▲

SMALL GEAR BOXES
in ratios from 4:1 to 12,000:1



Small, compact gear boxes for use in servo mechanisms, computers, small actuators and electronic components are offered in gear ratios from 4:1 to 12,000:1. Units are designed for mounting directly to small electric motors, or can be supplied with an input shaft, if desired. Series 145 gear boxes provides up to 150 oz-in. of torque, while series 167 provides 200 oz-in. Weight ranges from 2½ to 5 oz. Maximum output shaft backlash is 1 degree. Units are also available in standard U. S. Navy Bureau of Ordnance sizes 15 to 18. Made by **Southwestern Industries**, 5881 Centinela Ave., Los Angeles 45, Calif.

▲ For more details circle NED-742 L5 on enclosed inquiry slip ▲

STANDBY POWER PLANT
starts when line power fails

Belted construction of the model 10V4F standby electric power plant permits both engine and generator to operate at optimum speeds. Both single and three-phase power are available in this 10,000-w model. It can be equipped with a line transfer control that starts the engine-generator automatically as soon as power line power fails, then switches the load power back to the line when normal service is restored. Also available are 6500-w continuous duty and 3500, 2000, 1000 and 500-w capacity models. Made by **Wincharger Corp.**, Dept. P-12, E. Seventh & Division Sts., Sioux City 2, Iowa.

▲ For more details circle NED-743 L5 on enclosed inquiry slip ▲

For precision cleaning of molds and dies—

NEW PANGBORN HYDRO-FINISH

gives you: Fewer moving parts—Easier handling—Added efficiency

Now Pangborn's famous Hydro-Finish is yours with added convenience and efficiency! Holding fine tolerances, Hydro-Finish cleans molds and dies in minutes . . . offers many new advantages. Pangborn has done away with the pump; air jet sluriators now keep the abrasive in suspension. This means a lower investment and fewer moving parts. Optional loading stand simplifies handling, washing and inhibitor application. The cabinet has been redesigned for more efficient operation. These and other advantages make the Pangborn Hydro-Finish ideal for precision cleaning and finishing!

For further details on Hydro-Finish, send for Bulletin 1402 now! Write: PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Maryland.

Pangborn

BLAST CLEANS CHEAPER

▲ For more details circle NED-744 L5 on enclosed inquiry slip ▲

what a sweetheart . . . for IDEAS

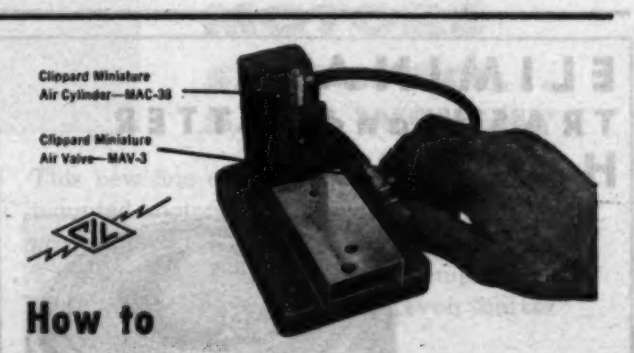
It's Hyde's new industrial products catalog, of course. Here is a new concept in a hand and machine knife catalog. It's jam packed with the largest selection of industrial knives anywhere. Loaded with illustrations and suggestions for knife uses. Just off the press — it's waiting for you — for free.

WRITE TODAY

HYDE PRODUCTS FOR INDUSTRY

HYDE MANUFACTURING CO.
SOUTHBRIDGE, MASS., U.S.A.

▲ For more details circle NED-745 L5 on enclosed inquiry slip ▲



How to "Fingerprint" Small Parts!

One of the sub-assemblies we produce must have a parts number printed clearly in the same place on every piece. We, literally, have made this a "fingerprinting" operation thru use of two Miniature Pneumatic Devices we manufacture and market.

In the illustration above inked pad is pushed to rear of jig when part is inserted. Clippard MAV-3 normally closed 3-way Miniature Air Valve, when depressed ⅛" with finger, activates Clippard MAC-38 Miniature Pneumatic Cylinder, printing parts number with inked rubber type. Set-up above operates at 50 psi line pressure, but MAV-3 is capable of handling 150 psi with ease and MAC-38 100 psi.

You, too, will find many work and time saving uses for Clippard Miniature Air Cylinders, Valves, Manifolds, Fittings and Accessories in light automatic or semi-automatic production positions, control systems or outstanding new end products. Write for details, catalog sheet and modest prices, now!

Clippard INSTRUMENT LABORATORY, INC.

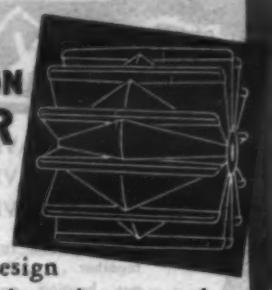
7398 Colerain Road, Cincinnati 24, Ohio

Manufacturers of R.F. Coils, Electronic Equipment, Miniature Pneumatic Devices

▲ For more details circle NED-746 L5 on enclosed inquiry slip ▲

Increase conveyor belt life from
50% to 400%

WITH
SPROUT-WALDRON
BELT-SAVER
PULLEYS



Exclusive cone-wing design produces amazing savings by casting out rough stuff before it can lodge between conveyor or elevator belt and pulley and cause wear.

Other Sprout-Waldron pulleys are available in many types and sizes.

WRITE FOR FREE BOOKLETS!

SPROUT-WALDRON
The Best in Materials Equipment Since 1856
8 LOGAN ST. • MUNCY, PA.
Equipment for SIZE REDUCTION • MIXING & BLENDING • BULK MATERIALS HANDLING • PELLETING & CUBING • PRODUCT CLASSIFICATION

▲ For more details circle NED-747 L5 on enclosed inquiry slip ▲

Why this union outperforms ...outlasts...all others

In the 603 Rockwood Unions the male seat is 150 Brinell harder than the female seat. This prevents galling in making up and lengthens service life considerably. *No other union has this hardness-differential.*

Also, these unions are 100% "Rockwoodized" to protect all parts against corrosion. So thorough is this process that it effects actual chemical conversion of the entire surface, including threads. As a result, scratches can't spread rust and the finish can't chip or peel off.

Other advantages: all parts fully interchangeable . . . plug type ball-to-cone design eliminates scratching when making up in tight places . . . both seats of AISI molychrome steel, forged in place and bond-locked under 100M and 400M pound pressure. For complete facts write Rockwood Sprinkler Company 961 Harlow Street, Worcester 5, Mass.

ROCKWOOD SPRINKLER COMPANY

▲ For more details circle NED-748 L5 on enclosed inquiry slip ▲

3 NEW
HYDRAULIC PUMPS FOR INDUSTRY

OTC

Compact, self-contained pumps for quick delivery of hydraulic power for production or maintenance. Precision engineered and built by OTC for use with their well known Hydraulic Tools. Readily adaptable to countless other applications.

SINGLE SPEED HAND-OPERATED
Remote control operates vertically or horizontally. Develops 10,000 P.S.I. Finger tip control valve. Weight: 15 pounds only.

ELECTRICALLY DRIVEN
For production and maintenance—assures continuous power flow with overload valve. Develops 11,000 P.S.I. Single piston, "V" belt drive, reciprocating type. ¼ HP. 60 cycle, 1725 RPM. Other motors optional.

TWO SPEED HAND-OPERATED
Low or high pressure by changing handles. Two pistons ¾" and ½" develop 3,000 or 10,000 P.S.I. Pump units without reservoir for pressures up to 20,000 P.S.I. also available.

See your jobber or write for complete data.

OWATONNA TOOL COMPANY
436 CEDAR ST. • OWATONNA, MINNESOTA

▲ For more details circle NED-749 L5 on enclosed inquiry slip ▲

GAMMA RAY PROJECTOR
portable unit made in three sizes

Safe to operate, the Kel-Ray portable gamma ray projector requires no maintenance beyond replenishment of its radioisotope. It can take an x-ray picture in a full circle and operates without electricity or control board. When the shutter is closed, the shielding is so thorough that personnel can work in close proximity with complete safety and photographic materials can be brought near it without fogging. Thickness of lead shielding depends upon isotope strength being employed. Projector is charged by inserting a small metal capsule containing the proper amount of the source. Applications include radiographing of large vessels, heat exchangers, condensers, castings and engine components. Made by M. W. Kellogg Co. and available from **Metal & Thermit Corp.**, 101 E. 41st St., New York 17, N. Y.

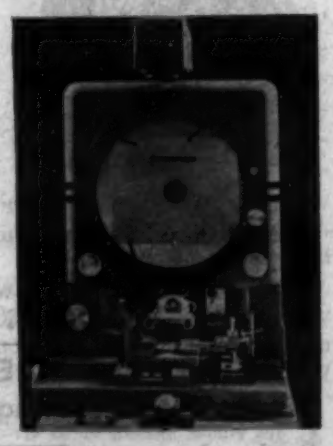
▲ For more details circle NED-750 L5 on enclosed inquiry slip ▲

VOLT-OHM-MILLIAMMETER
protected against burn-out

In the event a dangerous overload is applied to this portable volt-ohm milliammeter, it disconnects itself and raises a reset button on the case to protect both user and instrument. Any high voltage may be applied directly across any function, including ohms, with no danger to meter movement or components. Two models, both with full wave bridge type rectifier circuit, are available. Industrial model 455 has a sensitivity of 20,000 ohm per volt, ac or dc. Audio model 456 has a sensitivity of 20,000 ohm per volt dc and 1000 ohm per volt ac. This model also has decibel ranges and provisions for output measurements. Batteries are housed in an accessible compartment. Made by **Hickok Electrical Instrument Co.**, 10674 Dupont Ave., Cleveland 8, O.

▲ For more details circle NED-751 L5 on enclosed inquiry slip ▲

RETICLE TRACING FIXTURES
for use on contour projectors with any desired magnification



Parts formerly thought too difficult to inspect on contour gages can now be accurately gaged by reticle tracing fixtures, available in four types. The part itself is not projected. Only an actual size outline of the part, with tolerances, appears on the screen. This outline, reproduced on clear glass and projected, is called a reticle.

Tracer stylus linked rigidly to the reticle explores all configurations of the part, such as hole locations, recesses, undercuts, internal profiles and cam surfaces. Projection is independent of part size, and any desired magnification can be used on the projector. Illustrated tracer, adapted to inspection of hole locations in a mounting plate, is mounted on a Kodak model 4 contour projector. Made by **Optical Gaging Products, Inc.**, Forbes & Salina Sts., Rochester 11, N. Y.

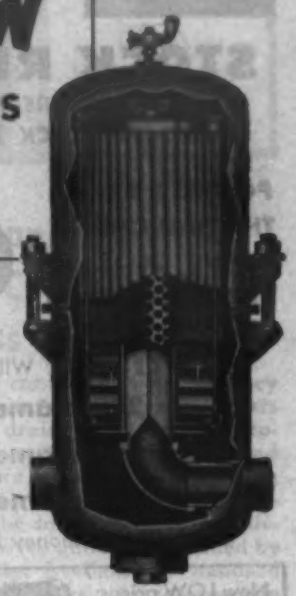
▲ For more details circle NED-752 L5 on enclosed inquiry slip ▲

Pipeline Fittings

Ladish Co.—Photos, sketches and engineering drawings are used in 21-page manual No. 55-1 to show design advantages of five pipeline fittings. Data are given on hot tap reinforcing tees, multiple outlet headers with seamless outlets, extra-long radius elbows, pipe line anchor flanges and seamless multiple outlet headers.

▲ For more details circle NED-753 L5 on enclosed inquiry slip ▲

LET
STAYNEW
LIQUID FILTERS
Solve Your Filtration Problems!



Bring your liquid filtration problems to Dollinger engineers. Their specialized experience is available in recommending the most efficient and economical equipment for filtering liquids in a wide range of viscosities, temperatures, acidities, alkalinities, pressures and capacities.

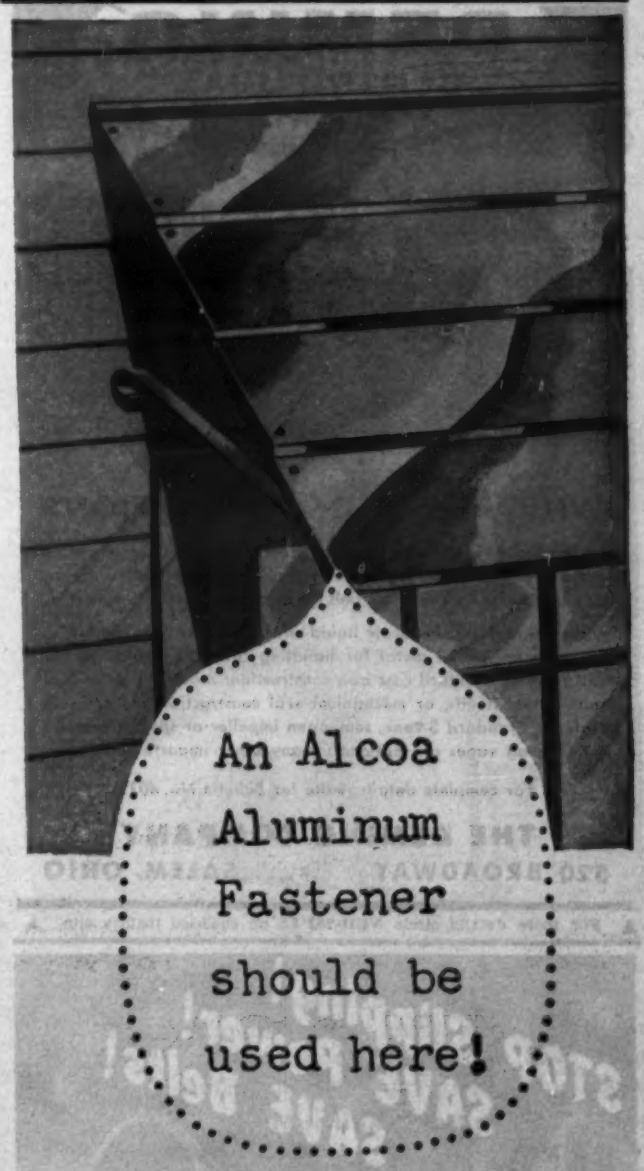
From our 30 years experience in liquid filtration, we have built up a vast file of helpful information. Any part of this information is yours for the asking—no obligation.

MODEL ELS
Staynew Liquid Filter

Representatives in Principal Cities

DOLLINGER STAYNEW FILTERS
DOLLINGER CORPORATION
49 Centre Pk., Rochester 3, N. Y.
ALL TYPES OF FILTERS FOR EVERY INDUSTRIAL NEED

▲ For more details circle NED-754 L5 on enclosed inquiry slip ▲



It's an aluminum awning assembly, worth the lasting strength of Alcoa® Aluminum Fasteners. You avoid galvanic and atmospheric corrosion. You get perfect color match; you get the very highest quality product. Your local Alcoa distributor has a complete stock.

P. S. In this awning assembly, we suggest an aluminum sheet metal screw from Alcoa's complete line of aluminum fasteners.

ALUMINUM COMPANY OF AMERICA
2245-L Alcoa Building, Pittsburgh 19, Pa.

Gentlemen: Please send complete specification data and samples of your aluminum fasteners.

Name _____
Title _____
Company _____
Address _____

Always Fasten Aluminum with Alcoa Aluminum Fasteners

▲ For more details circle NED-755 L5 on enclosed inquiry slip ▲

JACO LOW COST AUTOMATIC

STOCK REEL

COSTS NO MORE THAN STANDARD STOCK REELS

POWERED BY THE NATURAL SPRING OF UNCOILING STOCK

3 SIZES — ALL WILL TAKE 6" WIDE STOCK.

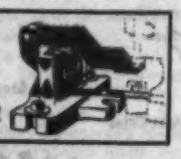
24" diameter $85.00

30" diameter $89.00

36" diameter $95.00

Guaranteed — money back if not 100% satisfied

New LOW prices on the JACO 3-inch and 6-inch SCRAP CHOPPER



WRITE FOR FULL DETAILS TODAY!

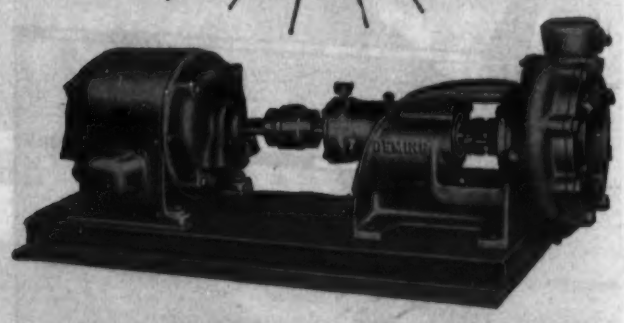
Dealer Inquiries Invited

JACO DEVICES, INC.

95 High Street • Hingham, Mass.

▲ For more details circle NED-756 L5 on enclosed inquiry slip ▲

DEMING CENTRIFUGAL PUMPS



WIDE RANGE OF APPLICATIONS

Capacities of Fig. 4011 End Suction Centrifugal Pumps range to 1,000 g.p.m. against heads to 240 feet. Available with electric motor, or equipped with pulley for belt drive, or pump only as specified.

Optional features: Separate liquid end can be cast iron (standard) or made of special metal for handling corrosive liquids. Power end remains standard cast iron construction. Standard, or special stuffing box heads, or mechanical seal construction are optional features. Standard 3-vane, semi-open impeller or special impeller with wiping vanes are optional. Many other important features.

For complete details, write for Bulletin No. 4011

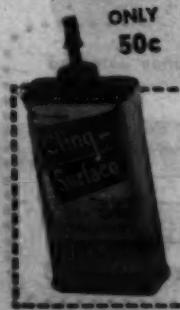
THE DEMING COMPANY

520 BROADWAY • SALEM, OHIO

▲ For more details circle NED-757 L5 on enclosed inquiry slip ▲

SEND FOR TRIAL SIZE ONLY 50c

- Makes and keeps belts soft and pliable
- Pliable belt "clings" to "surface" of pulley
- Dissolves hard "glaze" that makes belts slip
- Only belt preservative that has met and passed U. S. Government Tests and Requirements
- Sold with money-back guarantee since 1896



Cling-Surface Company, Inc.
1045 Niagara Street • Buffalo, New York

Please send me TRIAL SIZE can of Cling-Surface "50" Belt Preservative. 50c is enclosed.

Name.....

Title.....

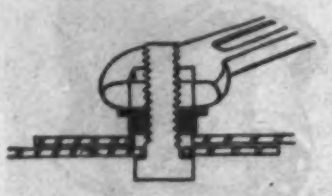
Company.....

City.....State.....

▲ For more details circle NED-758 L5 on enclosed inquiry slip ▲

MASTIC WASHERS & GASKETS
seal by flowing under pressure

Question of how to seal around bolts, screws and other fasteners is answered by mastic type washers and gaskets that "cold flow" into any annular space or void when pressure is applied. They provide a close-fitting seal and adhere well to metal, glass and plastic. Flow is controlled by amount of material in the washer or gasket. They will not become brittle or shrink with age, do not crack or lose adhesion at temperatures from −40 to 375° F and can be painted over without bleeding. Materials are available that will resist water, gasoline, oil, alcohols and other solvents. Stock sizes and shapes and made-to-order types are offered. Made by **Presstite Engineering Co.**, Dept. NED, 3796 Chouteau Ave., St. Louis 10, Mo.



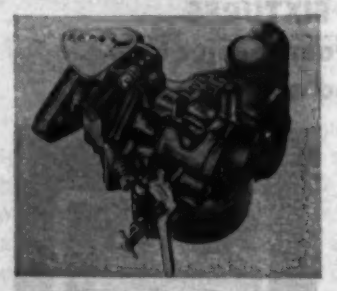
▲ For more details circle NED-759 L5 on enclosed inquiry slip ▲

PANEL FASTENERS
for metal, plastic or plywood

A clockwise quarter-turn locks these Lion fasteners, designed to hold plates of metal, plastic or plywood pressure tight. Fastening of maintenance and inspection panels on aircraft, trucks, busses, electronic equipment and air conditioning units is typical of many possible uses. Fasteners withstand shock, vibration and extreme stress. They cannot be partially or incorrectly locked, nor overtorqued. Full - floating leaf spring assures quick access. The one-piece forge stud is grommeted tightly to outer panel, while spring assembly is spot welded or riveted to inner sheet. The three standard types are shown. Oval, flush, knurled, ring, notched, wing or specified head styles are offered. Made by **South Chester Corp.**, Southco Div., 243 Industrial Highway, Lester, Pa.

▲ For more details circle NED-760 L5 on enclosed inquiry slip ▲

SMALL CARBURETOR
for 1 to 3-hp gasoline engines



Latest addition to Marvel-Schebler line of carburetion equipment is this AH carburetor for 1 to 3-hp gasoline engines such as are used on power mowers, power saws and lighting plants. Carburetor gives maximum fuel efficiency and reduces power lag under loads. Made by **Borg-Warner Corp.**, Marvel-Schebler Products Div., Dept. AH, Decatur, Ill.

▲ For more details circle NED-761 L5 on enclosed inquiry slip ▲

CEMENTED CARBIDES
two steel-cutting grades

Good edge wear without loss of shock resistance is feature of two new steel-cutting cemented carbide grades. Both are made with an anti-cratering ingredient called Crystalloy which uses titanium to gain impact strength and crater resistance. Grade CA-609 is for medium-heavy machining where cuts are in excess of 1/16-in. and where application requires good resistance to wear. CA-606 has a high resistance to edge wear and greater resistance to heat. Both are available in all standard tips and tools and can be made into any special blanks of any shape or size. Made by **Allegheny Ludlum Steel Corp.**, Carmet Div., Dept. NED, Ferndale, Mich.

▲ For more details circle NED-762 L5 on enclosed inquiry slip ▲

ELIMINATE THIS COSTLY TROUBLE ZONE with inexpensive

TRICO KLIPLOK CLAMPS FOR FUSE CLIPS

- SAVE POWER
- SAVE FUSES
- SAVE CLIPS

Kliploks lock fuse and clips together . . . Prevent dangerous heating and arcing at contacts . . . Stop unnecessary fuse blows. Especially recommended for "Dual-Element" fuses.

WRITE FOR BUL. NO. 6

KLIPLOK TEST CLAMPS

Use them everywhere. Attached in a jiffy. Clamp flat or round objects. Carry heavy currents. Handy for temporary connections, meter and motor testing, jumpers, battery charging, etc. Seven sizes 0 to 300 Amps.

WRITE FOR BUL. NO. 7

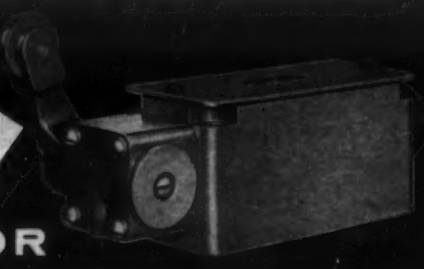
TRICO FUSE MFG. CO. MILWAUKEE, WIS

▲ For more details circle NED-763 L5 on enclosed inquiry slip ▲

CUTLER-HAMMER BULLETIN 10316

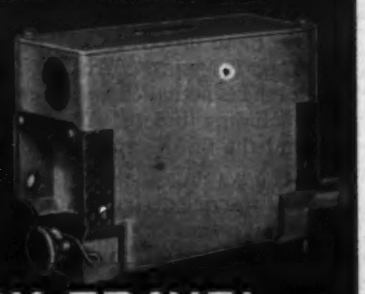
LIMIT SWITCHES

TYPE F



FOR LINEAR TRAVEL

TYPE J



FOR ROTARY TRAVEL

Both Cutler-Hammer Limit Switches shown above are widely preferred because of their tremendous range of adjustment, flexibility of application, and dependability of operation.

THE BULLETIN 10316 TYPE F

linear travel limit switch is used on many different types of machines, machine tools, cranes and hoists, to reverse motors, to initiate automatic cycles. Operating heads mount in any one of 4 quadrants, making it easy to position switch. Roller lever, push roller or push rod operating heads. Roller lever sets in 90 positions 4 degrees apart. Trip in both directions, or trip in one and by-pass in other direction. Two circuits, one normally open, one normally closed. Contacts adjustable for different overlaps or no overlap. Twin-break, quick make and break, silver-to-silver contacts. Durable, rugged construction. All standard enclosures. Maximum ease of wiring and accessibility.

THE BULLETIN 10316 TYPE J

rotary travel limit switch used on reciprocating equipment, machine tools, motor-operated doors and windows, baling presses, hoists, etc., to limit the number of shaft rotations. Adjustable in increments of 1/20th of a turn, between ½ turn and 100 turns. Resets on ⅛th turn in reverse direction. Adjustment knob outside case. Available in 2 circuits with normally closed contacts easily changeable to normally open contacts. In 4 circuits with normally open or normally closed easily changeable to 2 normally open, 2 normally closed. Both sizes are available in NEMA 4 watertight and NEMA 5 dusttight construction. Write for further details now.

CUTLER-HAMMER, Inc., 1377 St. Paul Ave., Milwaukee 1, Wisconsin. *Associate:* Canadian Cutler-Hammer, Ltd., Toronto, Ontario.

CUTLER-HAMMER MOTOR CONTROL C-H

▲ For more details circle NED-764 L5 on enclosed inquiry slip ▲

news notes from Berkeley division

BECKMAN

Automation in Action!

NEW INDUSTRIAL SYSTEMS BROCHURE AVAILABLE

Includes description and functional diagrams of 11 actual control and data reduction systems now operating in steel and paper mills, on oil and gas pipelines, automotive and aircraft research and manufacturing applications. Describes facilities, background and services of BERKELEY Industrial Systems Engineering Group.

Write for your copy today; please address Dept H 11

Berkeley division
BECKMAN INSTRUMENTS INC.
2200 Wright Avenue • Richmond 3, Calif.
70

▲ For more details circle NED-765 L5 on enclosed inquiry slip ▲

FOR AUTOMATIC CIRCUIT-CONTROL
AIRMATIC VALVES

To meet the increasing demand for fully automatic or semi-automatic operations . . . eliminate the need for manual control. Airmatic Valves perform efficiently . . . maintain greater operating speeds. What's more, they are simple and compact in design—assure best arrangement.

A complete line of 2-way, 3-way and 4-way valves available for high-pressure or low-pressure installations.

Three-Way Valve — Solenoid Valves — Cylinders

Write today for complete details about Airmatic Products

Attractive O. E. M. and Quantity Discounts — Delivery from Stock—Immediate

AIRMATIC VALVE INC.
7317 Associate St. Cleveland, Ohio

▲ For more details circle NED-766 L5 on enclosed inquiry slip ▲

Why INDUSTRY IS BUYING THE NEW EAGLE Safety Cans

the approved SAFE way to handle flammable liquids

- A complete new line with a good old name
- Listed by Underwriters Laboratories
- Approved by Factory Mutual
- Available in 5 sizes from 1 qt. to 5 gal.
- No waste, no splash, no spill
- Strong 1-piece construction — no seams
- Self-adjusting guard cap prevents leakage
- Safe for handling all flammable liquids

1 qt., 2 qt., 1 gal. Safety Cans come with trigger-grip handle, as illustrated at top right. 2½ and 5 gal. sizes feature free-swing handle (left).

See us at Booth #1107
Plant Maintenance & Engineering Show
Philadelphia — January 23-26

EAGLE MANUFACTURING COMPANY
Wellsburg, West Virginia
Serving Industry Since 1894

▲ For more details circle NED-767 L5 on enclosed inquiry slip ▲

PERMANENT MARKING CRAYON
markings easily removed by solvent

Graphs, charts and diagrams will remain on most surfaces indefinitely when made with Permapex, a permanent marking crayon. Fluctuating figures or

other elements can be drawn in with chalk, when washed off without damage to the basic chart. Crayon markings are easily removed with Apex-Removo, a special solvent. Kit of red, white, yellow and blue crayons and a tube of solvent lists for $3.25. Made by **Apex Permanent Crayon Co.**, Dept. E, Box 2236, Youngstown 4, O.

▲ For more details circle NED-768 L5 on enclosed inquiry slip ▲

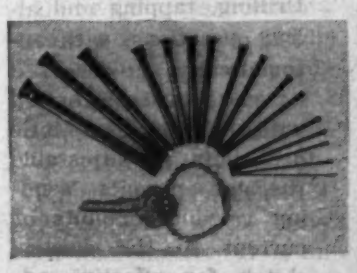
PRESS BRAKES
for sheet metal and steel plate in 30, 36, 50 and 60-ton capacities

Four series of Chicago press brakes incorporate all steel welded frames, enclosed precision cut steel gears and deep section bed and ram of rolled steel plate which assure permanent alignment and minimum deflection under load. A double-end drive from the intermediate shaft eliminates strain.

Twin Disc friction clutch and band brake on the flywheel shaft and split ram adjustment are other features. The clutch can be jogged or slipped. Four models range in capacity from 12-gage by 48 in. to ¼-in. by 48 in. or 14-gage by 72 in. to 14-gage by 144 in. Strokes are 2 and 3 in., ram adjustments are 3 and 4 in. and die spaces are 7¼ and 12 in. Series C press brake with 3/16 by 48-in. to 14-gage by 120-in. capacity is shown. Made by **Dreis & Krump Mfg. Co.**, 7436 S. Loomis Blvd., Chicago 36, Ill.

▲ For more details circle NED-769 L5 on enclosed inquiry slip ▲

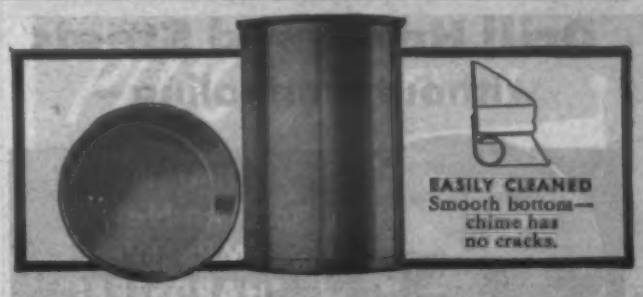
PERFORATING PUNCHES
standardized, have annealed-head



Accuracy, uniformity and low cost because of quantity manufacture have been realized by standardization of line of perforating punches. They are hardened, centerless ground tools with annealed heads and sharp cutting blades. Diameter accuracy is within 0.0002-in. Wide variety of sizes, lengths and head shapes is available from stock. Made by **Ross Equipment Co.**, Dept. N, 1517 Lyell Ave., Rochester 7, N. Y.

▲ For more details circle NED-770 L5 on enclosed inquiry slip ▲

buy and use



Clean up on Cleaning Costs with Hackney Containers of Stainless Steel

Replace old-style, hard-to-clean containers with Hackney *stainless steel* containers—and watch your cleaning costs disappear like water down the drain. Stainless steel protects against product contamination. Seamless bottom head and smooth, welded chime assure fast, thorough cleaning after every batch. Exterior crevices at foot ring and underneath top reinforcing curl can be smoothly welded if desired to provide containers approved and recommended by health and sanitation authorities. Available in standard sizes of 20, 30, 50 and 55 gallons. Or write for information on other sizes.

Hackney
PRESSED STEEL TANK COMPANY
1450 South 66th St., Milwaukee 14, Wis.
Manufacturer of Hackney Products

CONTAINERS AND PRESSURE VESSELS FOR GASES, LIQUIDS AND SOLIDS

▲ For more details circle NED-771 L5 on enclosed inquiry slip ▲

Rotary LEVELATOR® Lifts
HANDLE HEAVY LOADS FASTER AND CHEAPER

Adaptable To Many Uses—Use economical Oildraulic power to lift loads from plant floor to trucks, machines or different building levels. Rotary Levelator Lifts speed plant traffic, cut labor costs. Save plant space too . . . often eliminating need for loading docks.

Machine Feeding—Used for machine feeding, Levelator Lifts are time-savers, cost-savers. They lift loads faster and cheaper than men or makeshift methods and keep materials at the right height for continuous feeding.

Levelator Lifts are built for specified loads up to 80,000 lbs., travel up to 6 ft., speed as desired. When lowered, platform recesses into floor and can be trucked over. Powered by economical compressed air or hydraulic power unit.

MAIL COUPON FOR CATALOG

ROTARY LIFT CO.,
1058 Kentucky, Memphis 2, Tenn.
Send complete information on Levelator Lifts to:

Name _____

Address _____

Rotary LEVELATOR® LIFTS

▲ For more details circle NED-772 L5 on enclosed inquiry slip ▲

Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"

BLACK DRILL COMPANY, INC.
1380 East 222nd St. • Cleveland 17, Ohio

Also makers of— BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS
Write for information

▲ For more details circle NED-774 L5 on enclosed inquiry slip ▲

If you use gears in the product you make, we believe it will pay you, as it has others, to become acquainted with FAIRFIELD—the place where fine gears are produced to meet your specifications EFFICIENTLY, ECONOMICALLY! Fairfield's production facilities are unexcelled for making all kinds of accurate, automotive type gears such as are now finding wide use in all branches of industry: for tractors, trucks, and buses . . . for agricultural implements . . . for construction machinery . . . for machine tools. Ask for latest literature describing Fairfield's facilities. Your inquiry will receive prompt attention.

FAIRFIELD
Manufacturing Co.
2335 S. Concord Road
LAFAYETTE, INDIANA

▲ For more details circle NED-775 L5 on enclosed inquiry slip ▲

NOW—install machines on

Air-Loc®
4·17·4

. . . without using sloppy cements and solvents

. . . in half the time you need with other methods

. . . at a fraction of the cost for each machine in your plant

▲ [redacted] tells what AIR-LOC is, how it works, why it cuts your costs, why 80% of our business today is repeat orders from satisfied users. Send for your copy at no obligation.

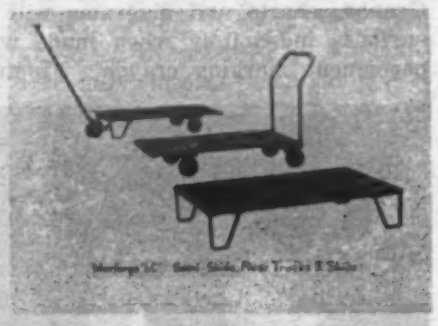
RETURN COUPON TO

AIR-LOC DIVISION—Clark, Cutler, McDermott Co., Franklin, Mass.
At no obligation, please send the AIR-LOC Booklet to:

Name _____ Title _____
(PLEASE PRINT)
Company _____
Address _____
City _____ Zone ____ State _____

▲ For more details circle NED-776 L5 on enclosed inquiry slip ▲

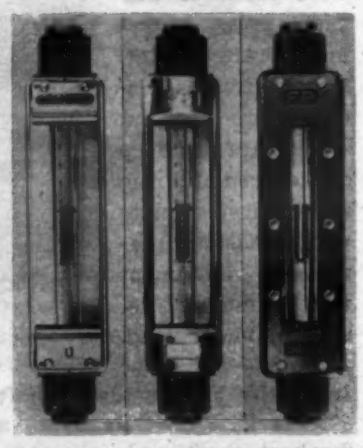
STEEL SKIDS & FLOOR TRUCKS feature welded longitudinal panels



Welded steel longitudinal panels engineered for strength, versatility and cleanliness are featured by Marforge LC skids, semiskids and floor trucks. Skids provide four-way entry for lift trucks and can be stored on end. Types LC for hand lift trucks and LCB for fork trucks are offered in sizes from 24 x 30 in. up to 48 x 72 in. Underclearances range from 3½ to 12 in. Semiskids can be used with lift trucks or jacks and can have stake sockets for convertibility to shelf units. The floor trucks feature outside stake sockets for maximum deck utility and smooth-rolling wheels. Deck sizes range from 24 x 36 in. to 42 x 72 in. Made by **Market Forge Co.**, Materials Handling Div., 54 Garvey St., Everett 49, Mass.

▲ For more details circle NED-777 L5 on enclosed inquiry slip ▲

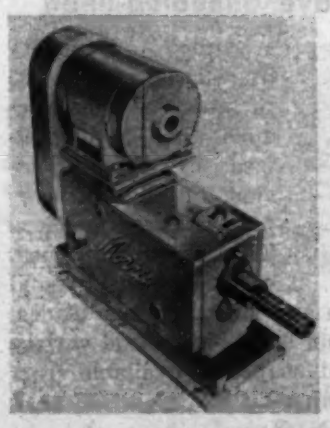
VARIABLE AREA FLOWMETERS improved with greater visibility



Visibility of metering tube has been improved 100 per cent in 1700 series Flowrator Meters. These variable area flowmeters retain the float, metering tube and universal end fittings inherent in the previous 700 series and have the same overall dimensions. Improved design uses one basic frame which, with quick change of covers, can be made into enclosed or pressure-sealed meter. Increase in tube visibility allows meter to be read from much wider angle than before. An improved packing assembly is available in either neoprene or in hat-type Teflon glass-to-metal seal with neoprene compression rings. Made by **Fischer & Porter Co.**, Hatboro 35, Pa.

▲ For more details circle NED-778 L5 on enclosed inquiry slip ▲

DRILL UNITS feature adjustable thrust control and wide range of spindle speeds



Drilling, tapping and allied operations, with automatically controlled cycles, are performed with line of Cam-Matic drill units. An adjustable rheostat permits sending varying amounts of current to the electric clutch for effective adjustable thrust control. Should the drill encounter an obstruction, the clutch slips to prevent damage to unit and workpiece.

Clutch can be used as a dull drill detector by adjusting rheostat for thrust just beyond maximum required for the operation. Periphery of the cam determines rate of quick approach, drilling time, length of stroke and rate of rapid return. Three drive arrangements, two sizes with capacity to 1⅛ in., 6-in. stroke and range of spindle speeds between 20:1 and 1320:1 ratios to cam speed are other features. Made by **Morris Machine Tool Co.**, 955 Harriet St., Cincinnati 3, O.

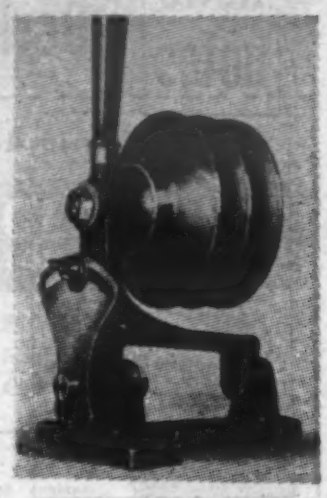
▲ For more details circle NED-779 L5 on enclosed inquiry slip ▲

Oil & Process Liquid Heaters

Turbine Equipment Co., Hynes Electric Heating Div.—Series B multipass electric heaters for heat transfer fluids and viscous liquids are described in illustrated bulletin 102.1. Exterior and skeletonized views are included. Specifications, of materials and operating ranges are included, along with comparisons with other methods of heating.

▲ For more details circle NED-780 L5 on enclosed inquiry slip ▲

VARIABLE SPEED CONTROL

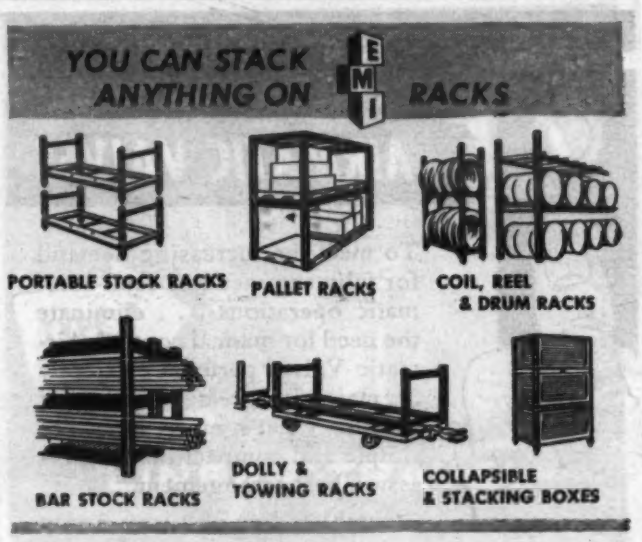


Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H.P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameter, preventing damage to belts and giving increased torque; single arm support, for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co.**, 2224 Albion St., Toledo, O. Adv.

▲ For more details circle NED-781 L5 on enclosed inquiry slip ▲



be a good "warehouse-keeper" keep your materials

well stacked!

Equipment Manufacturing storage racks that stack are fabricated of strong, square tubular steel and are adjustable to fit any space or unit load in your plant or warehouse. Special racks designed to your specifications. Field Engineering Service on any installation. Before you decide on a new warehouse, additional storage space or the purchase of stacking equipment, write for our catalog. You save money, space and time with E. M. I. racks.

E. M. I. Pallet Racks increase efficiency in storage and handling at the Cleveland Warehouse of Standard Oil Company of Ohio.

Write for Illustrated Catalog

EQUIPMENT MFG. INC.
21566 HOOVER ROAD • DETROIT 5, MICHIGAN
• MATERIALS HANDLING EQUIPMENT
• STACKING RACKS FOR INDUSTRY

▲ For more details circle NED-782 L5 on enclosed inquiry slip ▲

Quality

• Built strong—for severest plant service.
• Built simple—nothing to go wrong.
• Rigidly tested—on actual steam lines.
• User preferred—Nicholson is known for quality.

3 quality parts:
—bellows
—body
—cap

When less than best won't do, specify Nicholson. Write for Catalog 953.

NICHOLSON

W.H. NICHOLSON and Company
TRAPS • VALVES • FLOATS • METAL PARTITIONS
14 Oregon Street, Wilkes Barre, Pa. • Sales and engineering offices in 58 principal cities

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DILLON stainless steel dial thermometers

Accurate temperature indication year after year is yours with *precision* Dillon thermometers. Direct-drive bi-metal coil eliminates gears and linkage. Big, clear dial markings assure correct readings. Moisture sealed. Overheat protected. Pressure proof. Corrosion resistant. *Individually calibrated.*

O. E. M. DISCOUNTS . . . your name on dial! Dillon is *the* O.E.M. thermometer. Simple design, volume production means lowest costs. High quality and accuracy assure user satisfaction. Your name on dial increases your prestige! Thousands in use!

Many Sizes, Ranges, Uses
• Stem Lengths: 3" to 72"
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• For Gases or Liquids
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Free! Complete engineering data. Write today!

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14628NE Keswick St., Van Nuys, Calif. (Suburb of Los Angeles)

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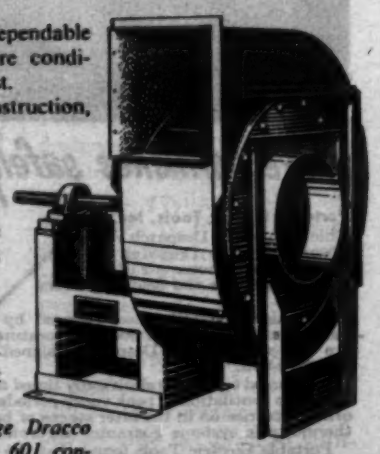
dracco industrial fans

FOR BETTER AIR HANDLING



■ Dracco Fans assure dependable operation, withstand severe conditions, have low lifetime cost.

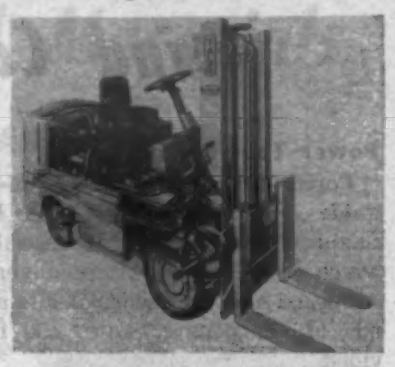
Heavy gauge steel construction, welded and vibration-free. Precisely balanced. No castings to crack. Accurate shaft. Rotation and discharge adjustable. Wide range of sizes: volumes from 500-46,000 CFM "Performance Proved" by 15 years' service with Dracco Dust Control systems. For details, contact:

Write for 40-page Dracco Fan Bulletin No. 601 containing complete performance data and specifications.

DRACCO CORPORATION
4055 EAST 116th STREET
CLEVELAND 5, OHIO

▲ For more details circle NED-785 L5 on enclosed inquiry slip ▲

FORK LIFT TRUCKS have automatic torque transmission



Fully automatic gear shifting is furnished by the Torque Transmission incorporated in KGA51 line of industrial lift trucks, built in 3000 to 8000 - lb capacities. As torque multiplies in infinitely varying ratios, the transmission automatically puts the truck in the most suitable ratio relative to load and speed. A large oil reservoir and an auxiliary radiator preclude possibility of transmission overheating. Clutch is used to accomplish directional change only. Each truck is provided with an inching control operated by dual brake pedals. Low cowl contributes to good visibility for the operator. Trucks are available with gasoline, diesel and LPG power. Made by **Yale & Towne Mfg. Co.**, Dept. M-1, Roosevelt Blvd. & Haldeman Ave., Philadelphia 15, Pa.

▲ For more details circle NED-786 L5 on enclosed inquiry slip ▲

IMPACT WRENCH CALIBRATOR sets wrenches for proper tension

Tightening of high strength bolts to required tension on structural jobs is assured if impact wrenches used are set on this calibrating device. The self-contained unit weighs about 50 lb and clamps on any convenient column or beam. Bolt, washers and nut are inserted in the calibrator and nut is tightened with the impact wrench. Air pressure and time are then modified until proper bolt tension is obtained. Tension is read on hydraulic gage. This pressure and time are then used in tightening the bolts in the structure. Device calibrates wrenches for ¾, ⅞ and 1-in. bolts, 2½ in. long or longer. Made by **Skidmore-Wilhelm Mfg. Co.**, Dept. N, 442 Green Rd., Cleveland 21, O.

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MOTOR DRIVEN MICROMETER independent of any human variable

Direct measurements that are accurate within 0.00005-in. and independent of any human variable in sensing contact or setting the dial are obtained with the model H Carson-Dice motor driven micrometer. It is an electronically controlled screw-thread measuring instrument, not a comparator. Actual dimensions of any electrically conductive parts are read directly on a 3-in. dial with divisions for each 0.0001-in. The high speed operation is automatic, actuated by a pushbutton. Measurements can be made on fragile or flexible parts as the micrometer is stopped with slight pressure exerted on the work. Upper head is adjustable over a 2-in. range so that work with a maximum dimension of 3 in. can be accepted. Operation is on 115 v, 60 cycles ac. Made by **J. W. Dice Co.**, 1 Engle St., Englewood, N. J.

▲ For more details circle NED-788 L5 on enclosed inquiry slip ▲

Industrial Hot Water Heating

Fred H. Schaub Engineering Co.—"A Discussion of the Problem of Industrial Hot Water Heating" is title of 8-page technical bulletin 923. Author R. F. Schaub, company vice-president, describes the Iso-Therm system which can supply any quantity of hot water needed at any one time, at a constant predetermined temperature, and do it without taking any more steam from boiler beyond the average heating rate.

▲ For more details circle NED-789 L5 on enclosed inquiry slip ▲

PLUG-IN RELAY for industrial service

• A screwdriver and five seconds are all you need to remove this new PLUG-IN relay for normal inspection, maintenance or replacement!

Write for Bulletin 8501. Address Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

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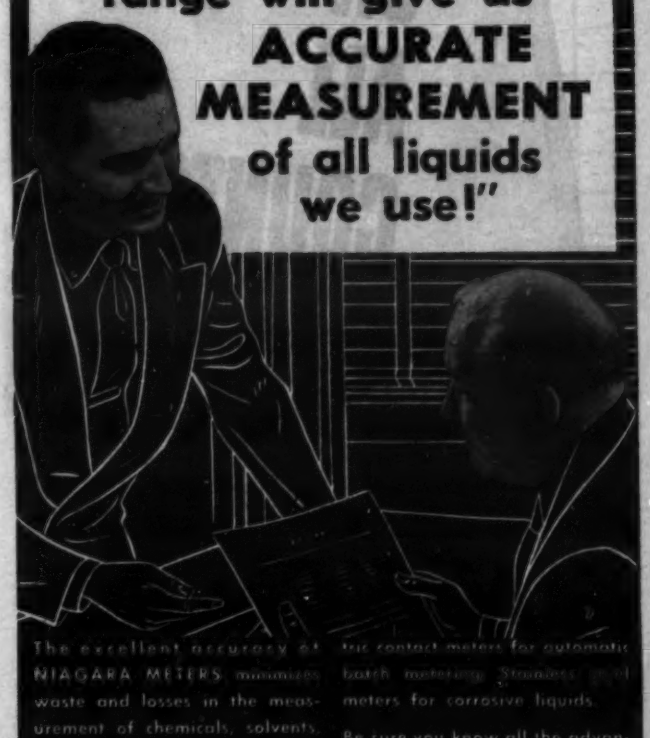
"I suggest NIAGARA METERS. Their wide range will give us ACCURATE MEASUREMENT of all liquids we use!"



The excellent accuracy of NIAGARA METERS minimizes waste and losses in the measurement of chemicals, solvents, oils, hot water, cold water, syrups and other liquids. Nearly all volumes and types are handled, from 1/30 to 1000 gallons per minute. Special electric contact meters for automatic batch metering. Stainless steel meters for corrosive liquids.

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Gentlemen:
Please send me complete information on the use of automatic NIAGARA METERS, based on the data below:
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Temp. _____ °F.
Flow rate _____ g.p.m.
Maximum batch _____ gals.
Name _____ Title _____
Company _____
Address _____

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REVISED EDITION!
FACTS ABOUT KODAK'S FAMOUS CELLULOSIC SHEET

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IF you use, plan to use, or merely want to know more about plastic sheet, this data book belongs first on your desk, then in your files for reference.

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Makes Good Products Better

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A PRODUCT OF EASTMAN KODAK COMPANY, ROCHESTER 4, N. Y.
For more details circle NED-792 L5 on enclosed inquiry slip

BEST ON ALL COUNTS

Capacity 2,000 lbs.

RAYMOND *Lightweight*
Hydraulic HAND PALLET TRUCK

- **LIGHTEST WEIGHT** Aluminum alloys reduce weight without sacrificing quality or strength.
- **STRONGEST FORKS** One-piece welded steel construction insures the maximum in overload safety factor.
- **EASIEST TO OPERATE** Foot pedals lift, lower loads. Easy to pull. Effortless pallet entry. (Patented booster roll construction.)
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- **MOST EFFICIENT PUMP** Backed by over 25 years experience in manufacturing hydraulic material handling equipment.
- **RUGGED CONSTRUCTION** Ram pistons, axles, lever shafts are heat-treated alloy steel. Reinforced handle.

Mail Coupon!

The RAYMOND CORPORATION
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Give me the facts on your Lightweight Hand Pallet Truck . . . send latest bulletin!

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

For more details circle NED-793 L5 on enclosed inquiry slip

New Literature and Catalogs

Power Tool Manual

Porter-Cable Machine Co.—48-page manual is latest guide on "How to Use the Porter-Cable Router-Shaper-Power Plane." It describes these three tools which use a single interchangeable electrical motor. A special chapter describes bits and cutters and methods of sharpening. Over 150 illustrations are provided.

For more details circle NED-794 L5 on enclosed inquiry slip

Building Vacuum Cleaning System

Spencer Turbine Co.—The Vacuslot cleaning system, a built-in vacuum system to facilitate easy cleaning of commercial or institutional buildings, is described in 4-page bulletin 153-B. Floor and corridor dirt is swept or mopped into vacuum slots installed flush with floor and drawn into container located in basement. Special connections are available for picking up water and for general vacuum cleaning.

For more details circle NED-795 L5 on enclosed inquiry slip

Power Hack Saws

Sales Service Machine Tool Co.—Complete line of Keller power hack saws is covered descriptively in 4-page bulletin 655. Major change in these saws is in capacity range which is now from 4 x 4 in. to 10½ x 9 in. Three models have adjustable feed control.

For more details circle NED-796 L5 on enclosed inquiry slip

Chipless Machining

Michigan Tool Company—Roto-Flo "chipless machining" machines for cold forming of toothed parts now available in three standard sizes are subject of 8-page bulletin RF-55. These models have capacities for rolling parts from ½ to 2-in. diameter with face widths up to 4 in. Serrations; tapered, straight and helical splines; and oil grooves are rolled by these units.

For more details circle NED-797 L5 on enclosed inquiry slip

V-Belt Drive Selection

Allis-Chalmers Mfg. Co.—74-page Tex-Book 20P40 features multi-color tables for quick and easy selection of constant speed Texrope V-belt drives. Handbook also provides valuable information on design features, basic drive principles and technical data on sheaves as well as hints for economical, safe operation of V-belt drives.

For more details circle NED-798 L5 on enclosed inquiry slip

Boiler Plant Instrumentation

Hays Corp.—Pertinent information on Hays line of power plant instruments and control systems is given in 24-page catalog 55-605-83. Booklet provides photos and schematic drawings of combustion guides: draft gages; flow, level, temperature and pressure instruments; combustion control systems; and panels.

For more details circle NED-799 L5 on enclosed inquiry slip

Vibration Mountings

T. R. Finn & Co.—High degree of vibration, shock and overload control is provided by Finnflex floating Pillow vibration mountings for medium and heavy weight machinery. Described in 4-page catalog FP-55, these mountings consist of a pair of rubber-in-shear isolators mounted at an angle between a semi-steel base and cover.

For more details circle NED-800 L5 on enclosed inquiry slip

How to Measure Temperatures

Tempil Corp.—"How Temperatures Are Measured" is an 8-page booklet which discusses heat and temperature as separate concepts, traces history of commonly used scales for measuring temperature, covers physical effects associated with rise in temperature, and explains how to monitor surface temperature by means of changes in color or physical state.

For more details circle NED-801 L5 on enclosed inquiry slip

Drafting Room Furniture

Frederick Post Co.—16-page illustrated catalog "Furniture for the Drafting Room" is descriptive of complete line of tracing files, drafting tables, stools and chairs. Sizes and types of furniture for every industrial, engineering or design need are covered.

For more details circle NED-802 L5 on enclosed inquiry slip

new 20 PAGE PRECISION FINISHING handbook

"Shows how costs are cut in 40 precision finishing operations through use of Liquamatte Wet Blasting. Write for a free copy of Bulletin 451-D."

WHEELABRATOR
CORPORATION
(Formerly American Wheelabrator & Equipment Corp.)
508 S. Byrkit St., Mishawaka, Indiana

For more details circle NED-803 L5 on enclosed inquiry slip

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Better Things for Better Living . . . through Chemistry

NEOPRENE
THE RUBBER MADE BY DU PONT SINCE 1932

For more details circle NED-804 L5 on enclosed inquiry slip

Bake varnishes safely with DESPATCH OVENS

Portable Electric Tools, Inc., Chicago, uses six Despatch V-39 ovens and three Despatch RS-1 ovens to bake thousands of electric motor armatures and field coils every day.

The highly volatile gases released by varnishes baking at near 300° temperatures are carried off by the Despatch-designed exhaust system.

The forced exhaust is electrically timed to assure adequate ventilation at peak vapor periods—gravity exhaust carries on in the later stages of baking. Dual thermostatic systems guarantee accurate heat control.

Portable Electric Tools found that the racks designed for the truck loaded V-39 ovens could be conveniently used in the Batch type RS-1 oven—this fact, plus the high efficiency of the units resulted in a 50% production increase after installing the Despatch system.

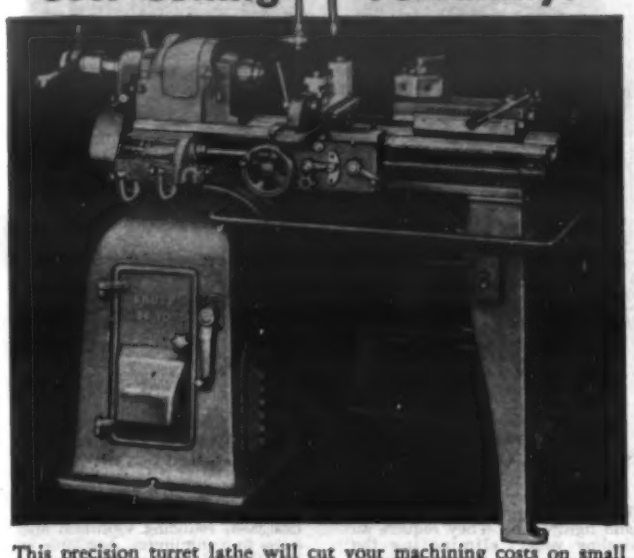
Send for Bulletin 100

DESPATCH OVEN
DESPATCH OVEN COMPANY
325 Despatch Bldg. • Minneapolis 14, Minn.

For more details circle NED-805 L5 on enclosed inquiry slip

SOUTH BEND 1000 Turret Lathe

Cost-Cutting Versatility!



This precision turret lathe will cut your machining costs on small parts. Its accuracy, ease of operation and wide ranges of speeds and feeds insure high production and close tolerances. Practical attachments simplify tooling—and often eliminate need of special fixtures. Find out how this versatile turret lathe can improve your machining. Base price $1574. Write for catalog.

SOUTH BEND LATHE
SOUTH BEND 22, INDIANA
Building Better Tools Since 1906

For more details circle NED-806 L5 on enclosed inquiry slip

any contour,
any detail,
any finish...

THE
Di-Profiler RECIPROCATING HAND MACHINE
does your job faster

TIME-SAVING

VERSATILE

ADAPTABLE

For precision cutting, roughing, finishing of tools, dies, molds. For straight, or irregular surfaces, convex or concave curves—also shoulders, recesses and hard-to-get-at or intricate detail.

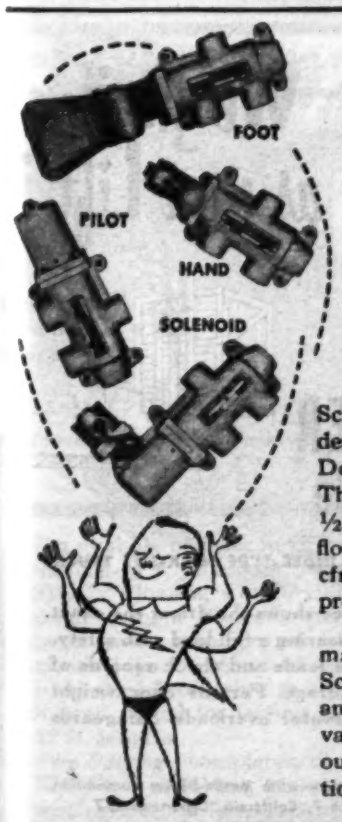
Saves hours of tedious hand labor in grinding, filing, scraping, honing or polishing. The reciprocating speed is variable from 0 to 100 strokes per second; and the stroke is adjustable from 0 to 6 mm. (1/4 inch). Sturdily built, the Di-Profiler is light; free from vibration.

A complete assortment of efficient accessories and tools is available for every type of work: steel and diamond files, diamond discs, laps, hones, T-C scrapers; also rotary tools including diamond wheels, burrs and points.

Investigate the Di-Profiler—a minor investment that assures savings of time and costs. Ask for a demonstration or price list DN-115.

ENGIS EQUIPMENT COMPANY
Sole authorized distributor for the U.S.
431 S. DEARBORN ST., CHICAGO 5, ILL.

For more details circle NED-807 L5 on enclosed inquiry slip



You get
Flexible Control
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Schrader®
4-WAY VALVES

Schrader 4-way Valves are designed primarily to operate Double-Acting Cylinders. They are available in 1/4, 3/8, 1/2, and 3/4 N. P. T. sizes, with flow capacities from 160 to 425 cfm free air at 100 psi inlet pressure.

Long service with minimum maintenance is assured by Schrader's simplified design and sturdy construction. The valves may be serviced without disturbing pipe connections. Write for catalog.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Avenue, Dept. T-11, Brooklyn 38, N. Y.

For more details circle NED-808 L5 on enclosed inquiry slip

New Processes and Materials

GLASS FIBER PANEL
has embedded expanded metal la

Security windows, small unsupported skylights, truck side panels and housings for dangerous equipment are applications for this glass fiber panel. A sheet of expanded metal lath is embedded in a layer of 3-oz glass fiber mat and impregnated with polyester resin. Standard sheet is produced in a colorless, semi-clear resin that is translucent, but not transparent. Standard sizes are 8 ft by 1, 2, 3 or 4 ft. Special sizes and colors and a type with fire retardant or "self-extinguishing" resin are also available. Made by **Resolite Corp.**, Dept. D-2, Zelienople, Pa.

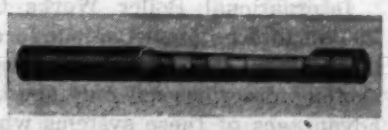
For more details circle NED-809 L5 on enclosed inquiry slip

BARREL FINISHING MEDIA
triangular and natural types

Problem of abrasive wedging in parts being tumbled is overcome by Tumblex T, a triangular shaped Alundum vitrified bonded abrasive. One of two new barrel finishing media, it cuts rapidly with no cutting compound required. Triangular shapes wear away evenly, do not chip and are chemically inert. Four sizes are available. Second abrasive is Tumblex N, a natural material used in finishing, particularly die castings. It cuts slowly, has little breakdown and does not mar the surface. A good color is brought up on steel parts, as well as on zinc, brass, aluminum and stainless steel. Seven sizes are available. Made by **Norton Co.**, 200 New Bond St., Worcester 6, Mass.

For more details circle NED-810 L5 on enclosed inquiry slip

HIGH PRESSURE HOSE
3/8, 1/2 and 3/4-in. sizes



Unusually severe surge peaks in industrial hydraulic applications can be withstood by No. 1508 high pressure flexible hose, available in 3/8, 1/2 and 3/4-in. sizes. It performs satisfactorily at 5000 psi in the 3/8-in. size and at proportionate pressures in the larger sizes. Two larger sizes use standard Aeroquip detachable and reusable fittings, while a special socket is offered for the smallest hose. Made by **Aeroquip Corp.**, 303 S. East Ave., Jackson, Mich.

For more details circle NED-811 L5 on enclosed inquiry slip

ICE MELTING CHEMICAL
does not harm concrete, vegetation

Exothermic action of Ice-Foe, a chemical snow and ice melting agent, immediately creates heat on contact with moisture. Comprised of tiny balls, it is said to have a melting capacity up to 30 times that of salt. Soluble material leaves no residue or white rings on sidewalks, steps or driveways and cannot be tracked. It will not harm grass or vegetation and leaves shoes, concrete and asphalt undamaged. Made by **Walton-March**, Dept. OK, 1935 Sheridan Rd., Highland Park, Ill.

For more details circle NED-812 L5 on enclosed inquiry slip

Up to 40% higher tightening torques

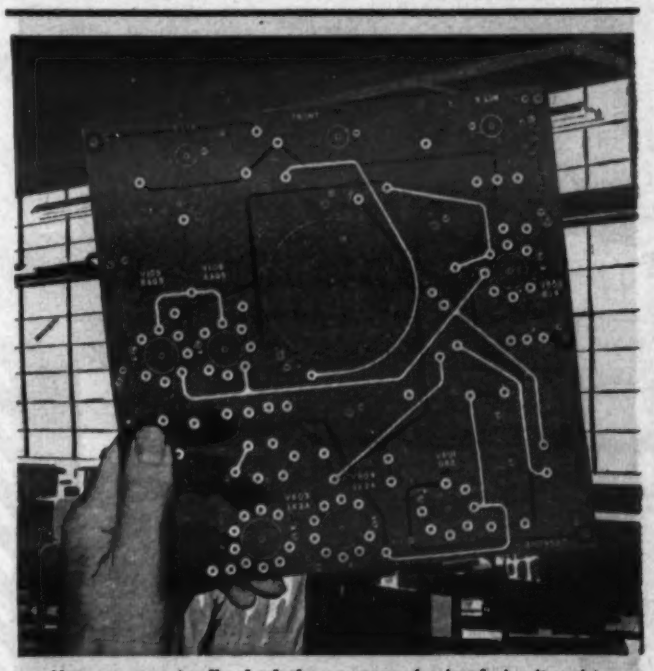
a feature of new High-Torque Unbrako socket set screws

Compare UNBRAKO-recommended tightening torques with those of ordinary socket set screws and you readily see why you can set an UNBRAKO and then forget it. The reasons are simple. UNBRAKOS have deeper sockets, which give you better purchase with the wrench; rounded socket corners, which eliminate the sharp corners where cracks start; fully formed threads, which make them stronger; and knurled cup points, which keep them tight.

Bulletin 2067 tells the complete story—briefly and pictorially. Ask your UNBRAKO industrial distributor for a copy. Or write us today. STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
UNBRAKO SOCKET SCREW DIVISION **SPS**
JENKINTOWN PENNSYLVANIA

For more details circle NED-813 L5 on enclosed inquiry slip



Now you can visually check the accuracy of printed circuit register.

Formica announces sensational new cold punching laminate

New XXXP-36 brings 1,000,000 megohms resistance value, precision and translucency to printed circuitry!

The new XXXP-36 sheet punches cold up to and including 1/16". Therefore, it is not subject to dimensional change as in grades which must be heated before punching. This means that with Formica XXXP-36, you can now produce circuits with new and higher standards of accuracy.

XXXP-36 translucency allows you to (1) see the smooth, homogenous sheet structure that delivers top insulating performance, and (2) visually check the accuracy of printed circuit register.

The new XXXP-36 is ideal for terminal boards and tv insulators requiring high I.R. Use coupon below to request free test sample and descriptive bulletin.

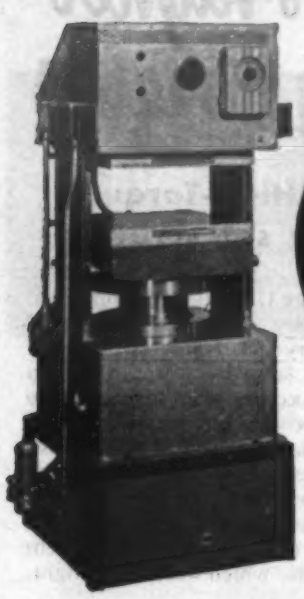
The Formica Co., 4671 Spring Grove Ave.
Cincinnati 32, Ohio

Gentlemen:
Please send me a free XXXP-36 printed circuit sample and bulletin.

Name_____
Company_____ Title_____
Address_____
City_____ Zone____ State_____

For more details circle NED-814 L5 on enclosed inquiry slip

The **P·H·I** *Automatic 70 Ton Hydraulic Press*



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Hydraulic System,
Cycle Timer,
Heated Platens and
Temperature controls

18"x18" Platens to 600°
with thermoswitch controls.
Two position ram gives
8"& 12" Daylight.
8"stroke with down stroke trip.

larger presses built to customers specifications

P·H·I PRESS

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▲ For more details circle NED-815 L5 on enclosed inquiry slip ▲

Install Shatterproof, Light Diffusing
FILON
Fiberglas and Nylon Reinforced
PLASTIC PANELS

For skylights, sidelights, loading dock roofs and sheds... translucent FILON filters the sunlight for greater comfort and efficiency. In flat and corrugated panels that nest with corrugated metals and asbestos. Easily installed, no costly framing. Write for brochure.

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228 North La Salle St., Chicago 1, Ill.

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Technical information about Superior Hydraulic Tubing

This brand-new 6-page booklet gives complete information concerning Superior Hydraulic Tubing, including maximum working pressures, bursting pressures, velocity and flow charts, ordering information, etc. Use the coupon to obtain your free copy.

Seamless hydraulic tubing has been a SUPERIOR specialty for many years, and the production of this low-carbon tubing is a quality operation. The steel used is of a non-aging type, made under a special melting process to insure low yield strength and unusually high elongation. Carbon content is held to 0.12% maximum for greater ease of bending and flaring, and each order is tested for flareability. All tubing is given a 100% hydrostatic test at pressures well above the minimum required by SAE-JIC specifications. Sizes range from 1/8" to 1 1/8" OD.

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Please send me at once a free copy of Bulletin 39—"Superior Hydraulic Tubing."

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New Literature & Catalogs

Pyrometer Service Tips

Barber-Colman Co., Wheelco Instruments Div.—Among service tips included in 12-page bulletin F 7259 are what to do if instrument is reading erratic, if instrument curve is off, reading is too high or low or if it controls erratically.

▲ For more details circle NED-818 L5 on enclosed inquiry slip ▲

Bonded Mica Insulation

Budd Co., Continental-Diamond Fibre Div.—Micabond bonded mica insulation in the form of fabricated parts, plates, sheets, segments, tapes, tubes and V-rings are covered as to specifications, composition, properties and tolerances in 16-page catalog M-55. Machining of Micabond is explained and insulating materials using mica are classified.

▲ For more details circle NED-819 L5 on enclosed inquiry slip ▲

Rotary Gear Pump

Sier-Bath Gear & Pump Co.—Detailed information relative to heavy-duty Hydrex rotary gear pump is provided in 8-page folder. Pump is designed for oils, burner service, hydraulic machinery, lube oil circulation, chemicals, marine service and general transfer in the range of 32 to 250,000 SSU, 1 to 350 gpm, 300 psi for continuous duty and 500 psi for intermittent service.

▲ For more details circle NED-820 L5 on enclosed inquiry slip ▲

Micro-Miniature Relay

General Electric Co.—Micro-miniature relay for electronic applications is subject of 4-page illustrated bulletin GEA-6346. Described are the 0.35-oz standard model and 0.4-oz current sensitive model, both hermetically sealed.

▲ For more details circle NED-821 L5 on enclosed inquiry slip ▲

Forging Hammers

C. C. Bradley & Son—Cushioned helve, upright helve, upright strap and compact types of forging hammers are described and illustrated in catalog 155. Specifications are given. Various units are rated from 15 to 500 tons capacity. History of art of hot and cold forging is included.

▲ For more details circle NED-822 L5 on enclosed inquiry slip ▲

Dockboards & Ramps

Magnesium Co. of America, Materials Handling Div.—How to solve 13 difficult dock loading and yard loading problems is related in 4-page illustrated folder. Photos show how the problems were solved with a Magcoa magnesium dockboard or yard ramp.

▲ For more details circle NED-823 L5 on enclosed inquiry slip ▲

Hot Water Generators

International Boiler Works Co.—10-page bulletin 700 on International-LaMont forced recirculation generators for high temperature water heat distribution systems describes not only specific features, but cites advantages of these systems which are rapidly gaining industry acceptance. Systems can be oil, gas or stoker fired.

▲ For more details circle NED-824 L5 on enclosed inquiry slip ▲

Investment Casting

Austenal Laboratories, Inc., Microcast Div.—"Design—With Microcast in Mind" is title of 12-page brochure which outlines in pictures and text the steps involved in investment casting and the wide range of intricate precision parts that can be produced by this method. It includes recent table of properties of investment cast alloys and traces the history of the 4000-year-old process.

▲ For more details circle NED-825 L5 on enclosed inquiry slip ▲

Industrial Wheel Bearings

Hartford Steel Ball Co.—Combined radial and thrust capacities for various sizes and types of Angular Contact wheel bearings are tabulated in 4-page illustrated bulletin "Wheel Bearings." Dimensional data and recommended mounting methods are also cited.

▲ For more details circle NED-826 L5 on enclosed inquiry slip ▲

Electronic Speed Controls

Eaton Mfg. Co., Dynamatic Div.—Illustrations, circuit diagrams, service hints and related nontechnical information is contained in 16-page illustrated bulletin EC-1 on Dynamatic electronic controls which provide stepless speed regulation of eddy-current type rotating equipment.

▲ For more details circle NED-827 L5 on enclosed inquiry slip ▲

New Money-Saving Airpower Anywhere in the Plant

Compact . . . Lightweight . . . Air-Cooled Le Roi Stationary Compressors are easily installed . . . anywhere

Le Roi's compressors are compact and lightweight. They require no cooling water, eliminating the need for expensive space-eating pipes. No danger of freeze-ups or overheating from lack of liquid coolant. Only minimum attention by an operator is needed.

The new Le Roi three-cylinder 50S2 and six-cylinder 75S2 and 100S2 compressors are balance-designed, reducing vibration and noise to a minimum. Available in 50, 75, and 100-hp sizes producing 200, 330, and 440-cfm of air, these new Le Roi air-power units give low-cost installation — low-cost operating and maintenance advantages.

Write today for literature.

LE ROI Division of Westinghouse Air Brake Co.
MILWAUKEE 14, WISCONSIN
Distributors in all principal cities SC-1001A

▲ For more details circle NED-828 L5 on enclosed inquiry slip ▲

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TWO HEADS ARE BETTER THAN ONE

Sometimes a double head is the only solution to your part or fastener problem. This steel spacer is an excellent example of a single double-headed part that has replaced a more expensive 3 piece part. Not only was the spacer itself much less expensive but actual assembly cost was cut almost 30%. HASSALL double-heading really paid off on this one.

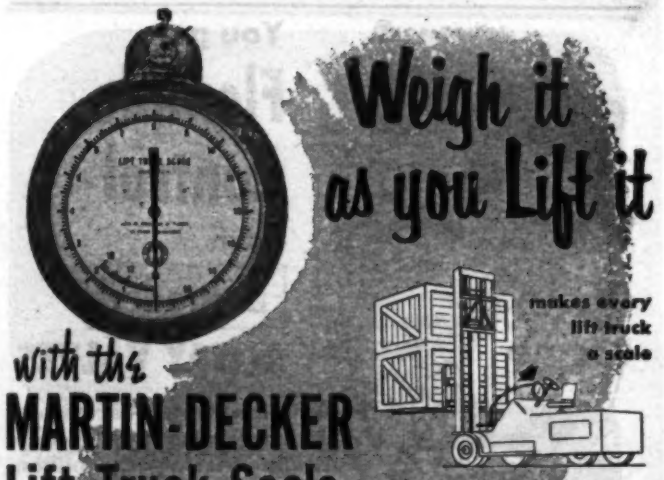
Double-heading is only one example of the almost limitless possibilities Hassall cold-heading offers you. If you have a fastener problem just send us samples or specifications for a quotation.

WRITE FOR CATALOG . . . . . with it we will send you our popular decimal equivalent wall chart.
John Hassall, Inc., Box 2178 Westbury, L. I., N. Y.

HASSALL

SINCE 1850 — Hassall — NAILS, RIVETS, SCREWS AND OTHER COLD HEADED FASTENERS AND SPECIALTIES

▲ For more details circle NED-829 L5 on enclosed inquiry slip ▲



with the
MARTIN-DECKER Lift Truck Scale

FITS ANY HYDRAULIC-CYLINDER-TYPE FORK-LIFT TRUCK

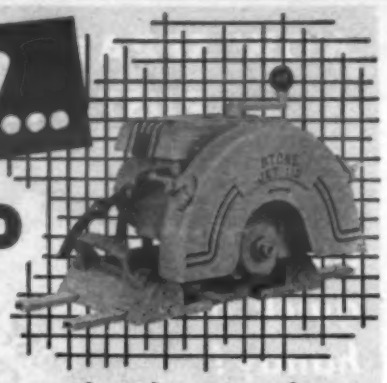
This inexpensive device shows the driver the exact weight picked up, thus assuring a full load with safety. It can be used to totalize loads and check records of stock and inter-plant storage. Permits floor weight distribution. Prevents elevator overloads. Safeguards equipment and life.

For prices and descriptive literature write Martin-Decker Corporation, 3431 Cherry Avenue, Long Beach 7, California, Department S-7

MARTIN-DECKER CORP.
HOME OF THE WEIGHT INDICATOR — LONG BEACH, CALIFORNIA

▲ For more details circle NED-830 L5 on enclosed inquiry slip ▲

NEW...



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PORTABLE TRAVERSE SAW

COOLER for sustained operation!

- Portable - 83 lbs.
- Dependable
- Fast
- Economical

A natural for on-the-job use. Set it up anywhere. Adaptable guide rails, available in various lengths, 4′ to 12′ for ready flexibility. Pays off in dollars on every production job. Rugged Universal 115V, AC-DC motor cuts Stone, Brick, Terrazzo, Asbestos Products, Refractories, Concrete and Concrete Products.

Get full information on Stone Cut-off Machinery. No obligation; simply write or phone.

STONE MACHINERY COMPANY, INC.
71 Fayette Street, Manlius, New York

For more details circle NED-831 L5 on enclosed inquiry slip

For Hard-to-Light Machines . . . New Adjustable-Arm

Air-Cooled Dazors with Side-Mounted Reflectors

Choice of Arm Extensions: 31″ (No. 1102) 20″ (No. 1103) Same Price

Now it's as easy to beam light into a recess, or around an offset, as onto a simple tool or bench position. This Adjustable-Arm Dazor with side-mounted reflector offers same low-cost air-cooled efficiency and positive tension control as top-mounted style. Uses 60-w bulb. Call your Dazor distributor. Dazor Manufacturing Corp. St. Louis 10, Missouri.

...Makers of
DAZOR FLOATING LAMPS

For more details circle NED-832 L5 on enclosed inquiry slip

new free catalog solves your space problems

SICO L-B TABLE

For dual use of space in office, plant, home, etc. Folds-unfolds in a jiffy with exclusive, smooth operating, SICO "Floating Fold". Glides easily, quickly from room to room. Stores in small, 2¾ sq. ft. area. Supports anchor it to floor when in use. Tough, mellamine plastic tops are mounted on heavy, 14 gauge, structural steel frame that is arc-welded for strength and lustron plated for lasting beauty. Available in 8, 10, 12 ft. lengths.

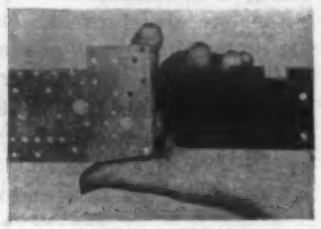
Free Catalog—completely describes and illustrates the SICO line of folding tables and the *SICO System* for seating more in less space at lower cost. Write today.

SICO manufacturing company
Dept. 406, 6045 Pillsbury Ave. So., Minneapolis 19, Minn.

For more details circle NED-833 L5 on enclosed inquiry slip

New Processes & Materials

LAMINATED PLASTIC can be punched at low temperature



Grade XXXP-470 Phenolite, an electrical grade phenolic laminated plastic, is suitable for copper clad printed circuits where automatic processes require close registration of punched mounting holes for component inserters. It can be punched at room temperatures and is available in the same thickness range, tolerance and sheet sizes as other XXXP grades. Properties of high insulation resistance and low electrical losses, even under severe humidity conditions, match or exceed values of these properties for hot punching grades. Good cold punching characteristics mean that flexural strength is lower and cold flow is higher than other grades. Made by **National Vulcanized Fibre Co.**, Dept. NED, 1055 Beech St., Wilmington 99, Del.

For more details circle NED-834 L5 on enclosed inquiry slip

REPLY CARD STENCIL for use on any mimeograph model

Stencil form to mimeograph business reply cards is available for use on any model mimeograph machine. The usual form of a reply card is impressed on the

stencil. Only preparation for use by user is typing in the permit number and lettering in the return address. Mimeographed reply cards are approved by the Post Office department. User must obtain a permit, as is the case with any business reply card. Available from **A. B. Dick Co.**, Dept. NEW, 5700 W. Touhy Ave., Chicago 31, Ill.

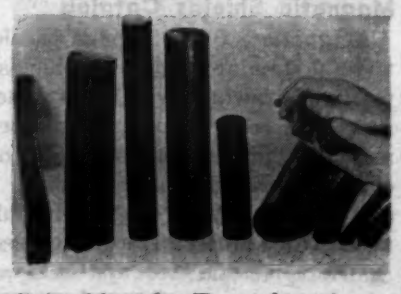
For more details circle NED-835 L5 on enclosed inquiry slip

COLD METAL SOLDER is moldable type in paste form

An Alcoa aluminum-based moldable metal in paste form, Lab-Metal will form a strong, permanent bond to metal, wood, plaster, glass or plastic. Product is spread with a putty knife and can be used to fill holes and cracks in plaster, wood, tile and concrete. Industrial uses include filling blowholes and sand holes in metal castings, repairing leaks in tanks and plumbing and filling of holes and dents. Formed surface will not shrink, crack, chip or peel and can be painted and lacquered. Solder itself can be filed, drilled, chiseled, tapped or ground and will sand to a smooth feather edge. It withstands up to 350° F, has 650-psi tensile strength and Rockwell E hardness between 4 and 8, and is unaffected by mild acids, alcohols and petroleum solvents. Made by **Alvin Products, Inc.**, Dept. A, 20-22 Houghton St., Worcester 4, Mass.

For more details circle NED-836 L5 on enclosed inquiry slip

MOLDED RUBBER PARTS length limited by shipping reel size



Rubber parts produced by a continuous molding process are made with close dimensional tolerances in any desired length. Actual length is limited only by the size of the reel on which it is shipped. Exact length required can be cut, eliminating waste. Parts themselves possess springiness required for compression fit. Among parts made are seals for concrete pressure pipe, forms for concrete slabs, engine mounts, seals for double windows, sink spray hose and windshield wiper tubing. Made by **United States Rubber Co.**, Dept. NED, 1230 Sixth Ave., New York 20, N. Y.

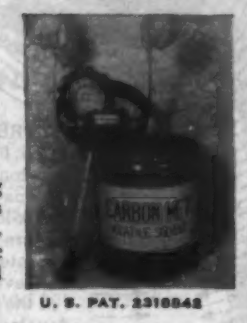
For more details circle NED-837 L5 on enclosed inquiry slip

NEW! Volatile Solvent

CARBON MET

A HALOGENATED AROMATIC HYDROCARBON

A specific cleaning replacement for CARBON TETRACHLORIDE



Out and out metal dry cleaning solvent and degreaser for all types of electric motors, instruments, electronic equipment. Ready to use "Handy Kit", containing Patented dip and drier basket.

U. S. PAT. 2316842

A LOWER TOXICITY SOLVENT.

- Quick Cutting solvent against stubborn dirt and grease.
- Non-Explosive...Safe...Comfortable to work with.
- Non-Corrosive to metals. Fast, clean evaporation.
- Non-Ionic ... Hi-Dielectic ... a specific for cleaning electrical components.

MUCH FASTER CUTTING THAN "CARBON TET" CAUSES NO RUSTING . . LEAVES NO FILM
also in economical 55 gal. size drum

120 South Canal St.

For more details circle NED-838 L5 on enclosed inquiry slip

Let the floor take the wear and tear . . . not your employees!

INSTALL—PABCO
MASTIPAVE
FLOORING
SUPER-TOUGH, NON-SLIP
RESILIENT, LOW-COST!

Specified by top purchasers for factories, warehouses, schools, government jobs, and institutions . . . *specified* because Pabco MASTIPAVE is the tough, long-wearing, *safe* floor that costs little to install, so little to maintain! In rolls, 36″ wide, and tiles, 9″ x 9″ . . . in terra cotta or black.

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New York 16 • Chicago 54 • San Francisco 19
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GENTLEMEN: Without cost or obligation to me, please send your folder, "Every Building Needs Pabco MASTIPAVE."

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For more details circle NED-839 L5 on enclosed inquiry slip

HYDRECO *Pressure-Balanced Gear-Type* Fluid Motors are built *better* to last longer, to operate efficiently at all speeds and to stand up under gruelling, shock-load service. HYDRECO Fluid Motors start, stop and reverse instantly, operate at an infinite variety of speeds, can even be stalled without damage . . . they are compact and efficient and develop high torque on starting.

Find out why the makers of America's leading hydraulically-equipped Materials Handling, Earth Moving and Industrial Machinery specify HYDRECO Fluid Motors for Rotary Power Transmission.

Write for HYDRECO Bulletin No. 139-A for full details on Constant Torque (Variable Horsepower) Fluid Motors. It's Free!

HYDRECO DIVISION
THE NEW YORK AIR BRAKE COMPANY
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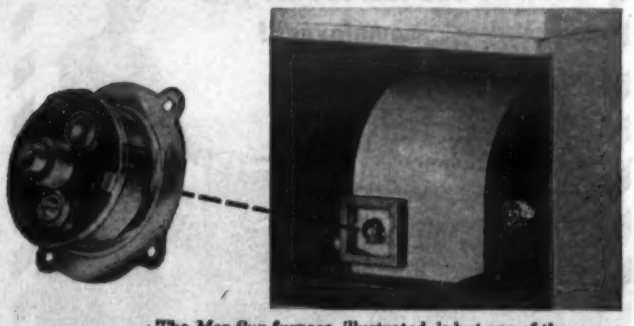
INTERNATIONAL SALES OFFICE, 90 WEST ST., NEW YORK 6, N. Y.
For more details circle NED-840 L5 on enclosed inquiry slip

"KLIXON CONTROLS are thoroughly dependable and reduce design problems"

Mr. Lou Hine, Jr., Chief Project Engineer, Morrison Steel Products, Inc.



The *Mor-Sun* furnace, illustrated, is but one of the complete line of high BTUH output gas and oil furnaces manufactured by Morrison Steel Products, Inc.

To insure accurate temperature control and to prevent burnouts in the fan and oil burner motors, their engineers specify and use Klixon Thermo-Snap® Temperature Controls and Klixon Motor Protectors.

Here's what Mr. Lou Hine, Jr., Chief Project Engineer, has to say —

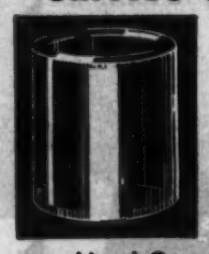
"We have used thousands of Klixon Controls on our heating equipment for over ten years and have found these thermostats and overload devices thoroughly dependable and they reduce design problems to a practical minimum."

Designers and manufacturers seeking accuracy and efficiency in temperature control rely more and more on Klixon Thermo-Snap Controls.

Klixon Thermo-Snap Controls are available in many hermetically sealed and open types in a wide variety of operating temperature ranges. Write for complete information, today.

METALS & CONTROLS CORPORATION
SPENCER THERMOSTAT DIVISION
1911 FOREST STREET, ATTLEBORO, MASS.
KLIXON
For more details circle NED-841 L5 on enclosed inquiry slip

carries a complete stock of



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Need Gauge Glass or Cylinders in a hurry? Then write, wire or phone Swift for immediate delivery.

We have a complete stock of Pyrex Tubular Gauge Glass and Cylinders on hand for chemical, pharmaceutical or industrial applications. Supplied in any length or finish from 2 mm. O.D. to 7" O.D.

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SWIFT LUBRICATOR COMPANY, INC., ELMIRA, N.Y.
807 Mateo St., Los Angeles • 140 Boylston St., Boston 16
For more details circle NED-842 L5 on enclosed inquiry slip

New Literature & Catalogs

All-Around Materials Handler

Kwik-Mix Co.—By providing three easily interchanged attachments—hopper, platform and forklift—for one standard chassis, the Moto-Bug can load, lift or haul all types of materials with one basic unit. This materials handling truck is described in 8-page illustrated brochure KM429. Unit is offered in three-wheel and larger four-wheel models. Attachment capacities range up to 2000 lb.

For more details circle NED-843 L5 on enclosed inquiry slip

Standard & Special Gages

Freeland Gauge Co.—Illustrated and described in 8-page brochure entitled "Gages" is a broad variety of standard and special gages and measurement control methods. Covered are special and built-up gages, air gage fixtures and unusual air gage applications designed, engineered and built for the automotive, aircraft and metalworking industries.

For more details circle NED-844 L5 on enclosed inquiry slip

Automatic Drill Units

Morris Machine Tool Co.—Cam-Matic drill units are subject of descriptive bulletin 92 which provides photos, line drawings, descriptions and specifications on two models. These automatic, electrically controlled, mechanically-driven units are designed for drilling, tapping and allied operations. Three drive arrangements and three mounting positions are covered.

For more details circle NED-845 L5 on enclosed inquiry slip

Automatic Elevators

Charles W. Lerch & Associates—20-page booklet "The Growth of Automatic Elevators" is well illustrated with photos of the latest devices in modern buildings. Improvements in today's elevators which lead to development of the automatic elevator are pointed out. An interesting history of early elevators is provided.

For more details circle NED-846 L5 on enclosed inquiry slip

Precision Mechanisms

Hamilton Watch Co., Allied Products Div.—Current technology of precision mechanism manufacture is pictorially reviewed in 32-page publication "Production Processing and Service Facilities." Separate sections show this division's productive capabilities in plate processing, mass production of small precision parts, tool and die production, metals processing, and assembly and development.

For more details circle NED-847 L5 on enclosed inquiry slip

Practical Plastics

Nosco Plastics, Inc.—"How the Nosco Plant Works to Produce Your Needs in Practical Plastics" is 12-page brochure which describes company's 227,000 sq ft plant and facilities. Case history stories of difficult and unusual molding jobs solved by company engineers are featured.

For more details circle NED-848 L5 on enclosed inquiry slip

Boron Carbide

Norton Co.—Handbook on "Boron Carbide and Elemental Boron" provides 16 pages of technical information on materials made by company for use in atomic energy field. Subjects covered are boron for neutron absorption, technical grade boron, properties of boron, commercial grades of boron carbide, radiation damage to boron carbide, bonded boron carbide, boron nitride and metal borides.

For more details circle NED-849 L5 on enclosed inquiry slip

Magnetic Shields Catalog

Magnetics, Inc.—36-page catalog MS-104, descriptive of standard magnetic shields, offers 33 pages of working drawings which show the diversity of shields made. It covers shield alloys used, the dry hydrogen annealing process used for controlling shielding properties, fabrication and finishes. Mounting brackets and availability of single or multiple nested shields made from MuMetal are discussed.

For more details circle NED-850 L5 on enclosed inquiry slip

Spring Design Data

Hunter Spring Co.—Basic considerations in design of precision springs are discussed and illustrated in series of engineering data sheets. Subjects include spring index, coil diameter variation, properties of materials, tolerances and comparison of cost and physical characteristics of spring materials.

For more details circle NED-851 L5 on enclosed inquiry slip

NOW SPRAY YOUR RUST PREVENTIVE!

RUST VETO *quick and handy!*

- Press button top for one-hand use
- Clear durable coating seals out moisture
- Dry film protects in storage and remains on metal in processing
- Great for tools, jigs, dies, idle machines

Price: $15.24 per case (1 doz. 12-oz. cans) f.o.b. Philadelphia, Penna. To order, clip ad to your letterhead or requisition and mail to E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

RUST-VETO SPRAY
...a product of
E. F. HOUGHTON & CO.
PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO
Ready to give you on-the-job service...
For more details circle NED-852 L5 on enclosed inquiry slip

Balance Rotating Parts FASTER...EASIER

No setup, no leveling, no centering. Chilled iron discs, ground and balanced to extreme accuracy, rotate with minimum friction on special bearings. Glass-hard spindles and bearings prevent wear or ball-bearing indentations when balancing heavy weights. Superior accuracy lasts throughout the long life of the balancing ways. Proved and preferred 38 years. For information on sizes, types, and prices of Anderson Ways, write for Bulletin 11-41.

Anderson
Write for Bulletin 11-41
ANDERSON BROS. MFG. CO.
ROCKFORD, ILLINOIS
For more details circle NED-853 L5 on enclosed inquiry slip

NEW CORROSION-PROOF SURFACING FOR FLOORS

COROCRETE

provides greater protection than conventional acid-proof floor materials . . . at considerable savings.

Recommended for use in chemical processing, food processing, plating and metal working industries, COROCRETE is quickly and easily applied over existing concrete surfaces . . . handles like cement topping.

6451-CC

Write today for trial sample of COROCRETE

THE CEILCOTE CO., Inc.
Corrosion-Proof Material and Construction
4838 Ridge Road, Cleveland 9, Ohio
For more details circle NED-854 L5 on enclosed inquiry slip

New VAPOR BLAST "Junior" LIQUID HONING MODEL 1818

Speeds Small Parts Cleaning, Descaling, Surface-Finishing, and Fine Deburring

VB "JUNIOR" MODEL 1818
Newest of VB Standard Liquid Honing Machines. Others available in custom built, automatic for special needs.

A great little time-and-labor saver for toolroom, machine shop, laboratory or small parts production lines, the brand new VB "Junior" Model 1818 will make quick work of dozens of surface-finishing operations around your plant. Performs the same wide variety of work as larger models; handles any part that will go through the 15½" x 9" loading door. Completely self-contained, requires only water, air, electrical and exhaust connections. And it is surprisingly low in cost.

Write or wire now for details and prices!

"Vapor Blast" and "Liquid Honing" are trademarks

VAPOR V·B BLAST

VAPOR BLAST MFG. CO.
3063 W. ATKINSON AVE.
MILWAUKEE 16, WIS.

▲ For more details circle NED-855 L5 on enclosed inquiry slip ▲

RELIANCE SNAP RINGS
SAVE TIME - MONEY - MATERIAL

AVAILABLE IN MANY SECTION SIZES AND VARIOUS GAP DESIGNS

To meet your specifications

SEND TODAY FOR FREE ENGINEERING BULLETIN 4/K3

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509 Charles St., Massillon, Ohio.

▲ For more details circle NED-856 L5 on enclosed inquiry slip ▲

. . . the preferred dial indicators

TIME-TESTED FOR ACCURACY AND DEPENDABLE PERFORMANCE!

For more than half a century, industry has relied on Ames indicators for help in the solution of measurement problems of all kinds. And through the years, Ames indicators have done their jobs superlatively well. The Ames reputation for extreme accuracy, ruggedness and reliability through many millions of cycles is due to an unswerving dedication to our original guiding principle—to make the best possible indicators and gauges, through constant research and the use of highest quality materials and expert craftsmanship.

We will gladly make recommendations on your measurement problems. Please send blueprints and specifications. And ask for your free copy of the Ames catalog.

Representatives in principal cities

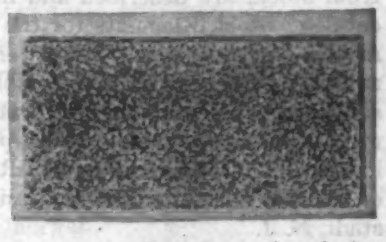
B.C. AMES CO.
34 Ames Street, Waltham 54, Mass.

MANUFACTURER OF MICROMETER DIAL GAUGES • MICROMETER DIAL INDICATORS

▲ For more details circle NED-857 L5 on enclosed inquiry slip ▲

New Processes & Materials

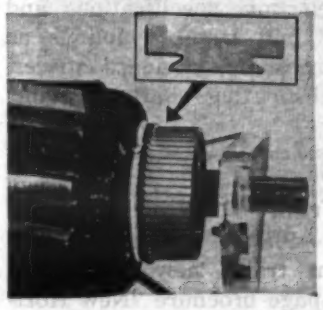
CORE MATERIAL
for plastic laminates and plywood



Long-fiber wood is interlocked and distributed equally in Granite Board core material to give maximum strength in all directions. Made for plastic laminates and plywood, material has dimensional stability, good tensile and impact strength and screw-holding ability. Cross banding is unnecessary, and face and edge veneers can be glued directly to the core materials. Board can be routed, planed, sanded in any direction and nailed close to the edge without splitting. Ends can be butted and bonded together to make strong joints. Lengths available up to 16 ft are particularly adaptable for counter fronts and tops. Typical uses include table tops, cupboard and flush doors and furniture. Made by **Aetna Plywood & Veneer Co.**, 1718 N. Elston Ave., Chicago 22, Ill.

▲ For more details circle NED-858 L5 on enclosed inquiry slip ▲

NONFLAKING PLASTIC LAMINATE
usable for mica in commutators



Reportedly less expensive and easier to fabricate than mica and practical for assembly into commutators with automatic machines, Phenolite Grade APO-720 is a polyester-resin-bonded asbestos-paper laminate. It has arc resistance of 181 seconds under ASTM tests, dielectric strength of 200 to 300 v per mil and is nonflowing under pressure at elevated temperatures. Supplied either in sheets or as custom-finished pieces, it is 25 per cent less dense than mica. Made by **National Vulcanized Fibre Co.**, Dept. NED, 1055 Beech St., Wilmington 99, Del.

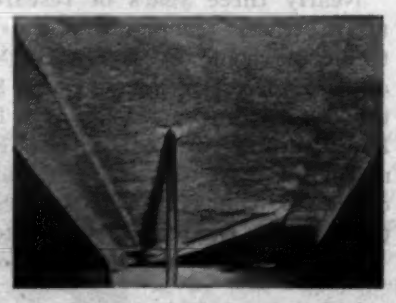
▲ For more details circle NED-859 L5 on enclosed inquiry slip ▲

SILICONE LUBRICANTS
effective in —100 to 400° F range

Operating temperature range from −100 to over 400° F is reported for Versilube F-50 fluid and G-300 grease-type silicone lubricants. Former flows at −100° F, and bearings containing the grease will turn readily at this temperature. Fluid is currently being evaluated both as a jet engine lubricant and for new hydraulic systems. It is a tailor-made silicone polymer which has lubricity, low pour point, excellent temperature-viscosity properties and high temperature stability without the use of additives. Both lubricants have potential use in sleeve-bearing and ball-bearing motors, clocks, timers, instruments, fluid transmissions, refrigerators, pipe thread compounds and chain conveyor systems. Made by **General Electric Co.**, Silicone Products Dept., 1 Uilicone Rd., Waterford, N. Y.

▲ For more details circle NED-860 L5 on enclosed inquiry slip ▲

FOAMING PLASTIC
for insulation, filling, packaging



Density variable from 3 to 15 lb per cubic foot is obtainable in Isothane foaming resins for thermal or acoustical insulation, filler for cavities, shock-proof packaging and stiffener for sandwich construction. The two-component polyurethane material, applied by spraying or pouring, has good adhesion to all types of surfaces and has excellent impact and vibration resistance, dielectric properties and chemical resistance. It absorbs practically no water. Complete foaming takes about 30 minutes, with original liquid expanding about 30 times. Photo shows a ceiling application. Made by **Surface Chemicals, Inc.**, 314 McKay Bldg., Pittsburgh 22, Pa.

▲ For more details circle NED-861 L5 on enclosed inquiry slip ▲

MAJOR AIRCRAFT MAKERS SAVE $954,000. ON DIES EQUIPPED WITH

ELASTICONE
GUIDE PIN COVERS

The facts speak for themselves and show how all industries are now reducing costs of die programs by using Elasticones for closing the gap between pins and bushings, protecting dies against breakage, reducing the need for spare dies. *Low costing* Elasticones are available to fit most pins and bushings.

Write for complete literature and technical data.

CENTRAL Safety Equipment Co.
6607 MARSDEN ST. PHILADELPHIA 35, PA.

▲ For more details circle NED-862 L5 on enclosed inquiry slip ▲

ME? AN AIRCRAFT ENGINEER

Yes, Lockheed trains you...at full pay

The step up to Aircraft Engineering isn't as steep as you might expect.

Aircraft experience isn't necessary. Lockheed takes your knowledge of engineering principles, your experience in other engineering fields, your aptitude and trains you for aircraft work through a program adapted to the individual.

Part of the program includes on-the-job training. When necessary you attend Lockheed classes. You learn to work with closer tolerances. You become more weight conscious. Because Lockheed's diversified expansion program ranges across the entire spectrum of aeronautical endeavor, you learn that fresh thinking, new ideas are welcomed and rewarded.

Naturally, you receive full pay while training, as well as a wide range of extra employee benefits which add approximately 14% to your salary in the form of insurance, retirement pension, etc. These opportunities for engineers in all fields have been created by Lockheed's long-range development program. Projects include: turbo-jet and turbo-prop transports; supersonic fighters far exceeding present-day aircraft in performance; advanced versions of vertical rising aircraft, jet trainers and bombers; nuclear energy applications to aircraft; and a large number of significant classified projects.

From a career standpoint, it is significant that a large measure of Lockheed's development program involves commercial aircraft.

Equally important from a living standpoint is the better life you lead in Southern California. Year-round sunshine, varied cultural and recreational opportunities, and scenic beauty of San Fernando valley provide the ideal background for modern living. You are invited to write for a brochure describing life and work at Lockheed and a job application blank. Coupon below is for your convenience.

Mr. E. W. Des Lauriers, Dept. DE-20-11
Lockheed Aircraft Corporation
1708 Empire Avenue, Burbank, California

LOCKHEED AIRCRAFT CORPORATION
BURBANK, CALIFORNIA

Dear Sir: Please send me your brochure describing life and work at Lockheed in Southern California.

My name _____

My present field of engineering _____

My street address _____ My city and state _____

▲ For more details circle NED-863 L5 on enclosed inquiry slip ▲

$2,190* PUTS A BRAKE LIKE THIS TO WORK IN YOUR PLANT

BIG 16 ga. x 78" CAPACITY (25 TONS)

AVAILABLE FROM STOCK

Now you can buy a full power press brake as easily as buying a new automobile. Just pick out the standard model you want, and your brake will be shipped from stock. Two models to choose from —the 16-48 with a capacity of 16 ga. x 48", priced at $1,455.00*; and the 1062, shown above. Write for specifications.

*F.O.B. Chicago

-Verson- **VERSON ALLSTEEL PRESS CO.**

9329 S. Kenwood Ave., Chicago 19, Ill. So. Lamar at Ledbetter Dr., Dallas, Tex.

▲ For more details circle NED-866 L5 on enclosed inquiry slip ▲

BELT **New building - block design builds profits for you with low - cost conveyor systems**

SERIES S12A VERSA-VEYOR
Light, low-cost, for moderate loads. Ideal for over stairways. Aluminum frame 11', 13' and 15' lengths.

SERIES T VERSA-VEYOR
Versatile, easily modified for any sorting, assembly job. 12" or 18" wide belts; aluminum or enameled steel frames. Various lengths.

SERIES F VERSA-VEYOR
Adapts easily to floor-to-floor handling situations. 12" or 18" wide belts. Aluminum or enameled steel.

Never before such versatility in low-cost handling equipment! "Building-Block Design" means *standard, interchangeable parts* . . . Belt conveyors quickly adapt to special jobs and changing production needs. Extreme portability, rugged construction, tireless power. Many work-saving accessories available. Get the facts on cost-cutting multi-purpose Belt conveyors. Send coupon today for illustrated catalog.

BELT CORPORATION
2111 Stahl Road Orient, Ohio
Send me complete Belt Conveyor catalog, showing models, capacities, accessories and applications.

NAME

ADDRESS

CITY

▲ For more details circle NED-867 L5 on enclosed inquiry slip ▲

New Literature & Catalogs

Architectural Metal Items

Over 2500 architectural metal items, all available from stock, are described and illustrated in 124-page catalog "Stock Elements for the Fabrication of Ornamental Metal Works." Tubing shapes, bars, treillage, railing, saddles and nosings, moldings and functional shapes, ornaments and hardware and metalworking machinery are covered. Many products are available in aluminum, bronze and steel. Request catalog No. 7, on company letterhead from Julius Blum & Co., Carlstadt, N. J.

▲ For more details circle NED-868 L5 on enclosed inquiry slip ▲

Data on Springs

Reliable Spring & Wire Forms Co.—"The Reliable Story" is 24-page illustrated brochure containing facts about manufacturing methods, facilities, processes, ranges and applications of springs in modern manufacturing. Correct methods for specifying and suggestions on selecting spring sources are covered. Method for integrating spring manufacturing with user's own production is illustrated.

▲ For more details circle NED-869 L5 on enclosed inquiry slip ▲

Flexible Mechanical Couplings

Philadelphia Gear Works—Sphereflex line of curved root, spherical tooth couplings is described in 12-page catalog which provides data on installation, service factors, proper selection, specifications and lubrication. Standard and mill motor couplings as well as horizontal, floating shaft, standard spacer, vertical shaft and vertical floating shaft couplings are featured.

▲ For more details circle NED-870 L5 on enclosed inquiry slip ▲

Cross-Country Freight Train

R. G. LeTourneau, Inc.—Photos and concepts of giant cross-country freight trains now being constructed are provided in 8-page brochure "New Horizons in Off-Road Transportation." These freighters travel on huge rubber tires instead of rails. Each car is self-propelled with all-wheel drive. Envisioned uses include transportation over vast desert and arctic regions, lowlands and jungles.

▲ For more details circle NED-871 L5 on enclosed inquiry slip ▲

Steel Shelving & Cabinets

Sperry Rand Corp., Remington Rand Div.—48-page "Steel Shelving" catalog FF-188 is compiled to assist in selection of proper shelving items for standard and special requirements. It covers steel storage shelving, shop equipment and steel storage cabinets. Machine stands, foreman's desks, bar racks, nail bins, tool panels, tool inserts and small parts inserts are also featured.

▲ For more details circle NED-872 L5 on enclosed inquiry slip ▲

Electric & Electronic Equipment

Newark Electric Co.—Thousands of items including equipment, components and tools related to the radio, electronic, electrical and instrumentation field are described and priced in 260-page well-illustrated catalog No. 62. All products are stocked and can be ordered by mail for original equipment, experimental or replacement purposes. Catalog is available to engineers, purchasing agents and others concerned with buying or specifying electronic and electric equipment.

▲ For more details circle NED-873 L5 on enclosed inquiry slip ▲

Protecting Steel From Rust

Nearly three years of research employing radioactive tracer techniques is reported on in 24-page technical report by the Battelle Memorial Institute entitled "The Development of a Method to Determine the Degree of Penetration of a Rust-Oleum Fish-Oil-Based Protective Coating into Rust on Steel Specimens." A copy of this report can be obtained by request on your business letterhead to Rust-Oleum Corp., 2799 Oakton St., Evanston, Ill.

▲ For more details circle NED-874 L5 on enclosed inquiry slip ▲

Motor Drive Magazine

Published regularly, "Motorization" is new magazine which will be sent to all concerned with the use of electric motor drives in industry. Each issue will contain studies dealing with engineering, application, performance and characteristics of electric motors and drives. Case studies will show how drive problems have been solved in various industries. To receive publication regularly, write to ACEC Electric Corp., 40 E. 49th St., New York 17, N. Y.

▲ For more details circle NED-875 L5 on enclosed inquiry slip ▲

Daylon safety ladders *approved and labeled by Underwriters' Laboratories*

Daytons are built of selected, tested, kiln-dried Sitka Spruce and are designed in accordance with "American Standards Association Safety Code". Type-A features large working platform (23" x 16") and steel handrails for added safety. Standard equipment includes neoprene rubber tread safety shoes.

Type-H has millwright (rung) back construction. Ladder folds flat. Standard equipment includes zinc-plated hardware, pinch-proof spreaders, neoprene rubber tread safety shoes.

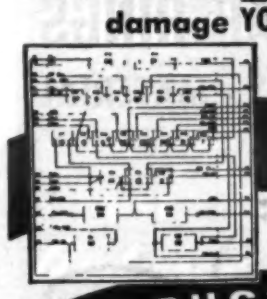
For FREE literature write Dept. E

Daylon *safety ladder co.*

2339 Gilbert Ave., Cincinnati, Ohio
In Canada—SAFETY SUPPLY CO., TORONTO

▲ For more details circle NED-876 L5 on enclosed inquiry slip ▲

don't let inferior accessories damage YOUR SUPERIOR PRODUCTS



use printed **PLASTIC**

SCHEMATIC DIAGRAMS

INSTRUCTION CARDS

Plastic adds *strength, protection* and *sales impact* to instructions, charts, diagrams, etc., accompanying your products.

As plastic specialists, we are equipped to draw, design and *print on plastic sheet* any of your product operating and maintenance aids.

Your exact specifications will be met on selection of appropriate typefaces, colors, quantities, finished sizes (up to 29" x 29") plastic thicknesses (.015" to .125") and number and sizes of holes for attaching or mounting to your products.

send us your job requirements for a free and accurate estimate.

Allegheny Plastics, Inc.
Plastic Laminators, Printers and Fabricators Since 1936
51 Thorn Run Road, Coraopolis, Pa.

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LOW COST SWITCHES

FOR ALMOST ANY ELECTRICAL PRODUCT

Low-priced Stackpole slide switches provide practically any needed switching arrangement for appliances, instruments, radios, TV sets, small motors and electrical toys. They're sturdy, fully dependable, small in size.

22 STANDARD TYPES

Types from .5 to 3 amperes A.C. Underwriters approved. Write for Slide Switch Bulletin RC-9B to:

Electronic Components Division
STACKPOLE CARBON CO.
St. Marys, Pa.

STACKPOLE

Fixed and Variable Resistors • Iron Cores • Ceramag ferromagnetic Cores • Molded Coil Forms • "GA" low value Capacitors

▲ For more details circle NED-878 L5 on enclosed inquiry slip ▲

ITS FELT TIP WRITES ON EVERYTHING!

in BOLD or *fine* lines

Marking steel drums, tools, parts, pipes, etc. is smooth sailing with the Flo-master Felt-Tip Marker.

The complete range of ten colors in Flo-master Inks permits speedy and accurate identification for assembling, stocking, inspecting.

Flo-master semi-opaque inks — waterproof, non-smudging, fast-drying — are recommended for hard-to-mark surfaces using the KING SIZE Flo-master. For general purpose marking—cartons, cases, etc—use Transparent Inks with POCKET SIZE Flo-master (illustrated).

Contact your supplier or write direct to Cushman & Denison Manufacturing Co., 153 West 23rd Street, New York 11.

Flo-master
FELT-TIP MARKER

▲ For more details circle NED-879 L5 on enclosed inquiry slip ▲

22.6% more air
PER POWER DOLLAR

By actual test, DeVilbiss air compressors deliver as much as 22.6% more air per power dollar. Efficiency like this combined with great care in manufacture and assembly are reasons why a DeVilbiss compressor pays for itself out of power savings alone. Full range of pressure. Types available from ½ through 15 h.p. Write today for full details.

DEVILBISS
THE DEVILBISS COMPANY
Toledo, Ohio
Barrie, Ontario • London, England • Santa Clara, Calif.

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★

A Motor for LOW SPEED OPERATION

If you are now manufacturing a product or developing a product where you need motion at slow speed, here is the motor for you. Hundreds of thousands now in use on cooking appliances, vending, coin operated, amusement, and advertising displays.

These AC gear motors are precision built and are being manufactured in volume for immediate delivery. For further information, send the requirements of your application to us. Special motors are built to meet your new product needs. Write today for data sheet.

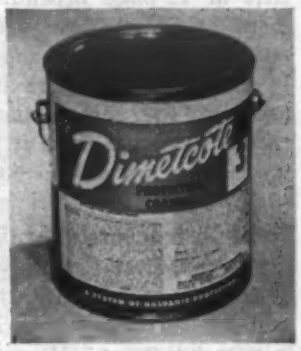
MotoRESEARCH COMPANY
1600 JUNCTION AVENUE
RACINE, WISCONSIN
Designers and Manufacturers of
SPECIAL INDUCTION MOTORS

★

▲ For more details circle NED-881 L5 on enclosed inquiry slip ▲

New Processes & Materials

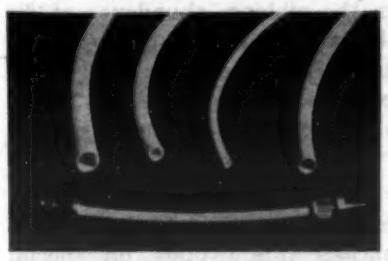
INORGANIC PROTECTIVE COATING "cold galvanizes" steel structures



Existing steel structures can be given the same protection that galvanizing affords, plus salt water resistance, with Dimetcote protective coating. Applied with either brush or spray, product is an inorganic metallic zinc coating that contains no oils or resins. Only one coat is usually required. Finish coat not only resists severe weathering and abrasion, but is unaffected by solvents and petroleum products. It is reported that the film cathodically inhibits corrosion of contiguous areas of bare steel. Developed by **Amercoat Corp.**, Dept. ND, 4809 Firestone Blvd., South Gate, Calif.

▲ For more details circle NED-882 L5 on enclosed inquiry slip ▲

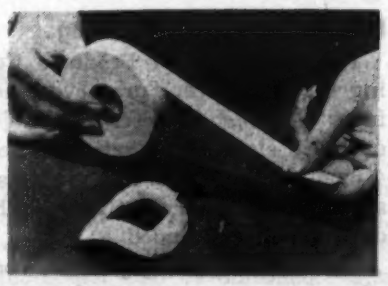
FLEXIBLE TEFLON TUBING handles chemicals, corrosive fluids



Line of chemically inert Teflon flexible tubing is intended for use in chemical, petroleum and other industries. It is unaffected by corrosive fluids and strong solvents and has service temperature range from that of liquid oxygen up to 500° F. Tubing can also be used for chemical lines requiring vacuum of up to 29 in. mercury, or pressures up to 100 psi. It is extruded in sizes from ⅛ to 1 in. ID with standard wall thickness of 30 mils. Colors for identification of streams can be specified. Ferrule type fitting made from Monel, nickel, stainless steel and nylon can be used with tubing. Made by **Pennsylvania Fluoroplastics Co.**, 1115 N. 38th St., Philadelphia 4, Pa.

▲ For more details circle NED-883 L5 on enclosed inquiry slip ▲

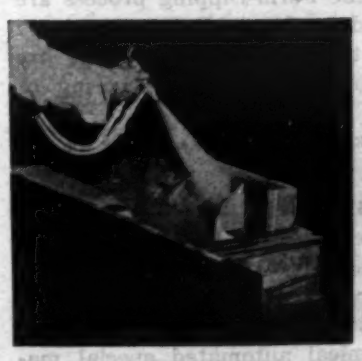
NONWOVEN POLYESTER FABRIC for wrapping electrical components



Typical uses of Scotch polyester web, a nonwoven fabric in felted form, are wrapping of coils, transformers, motors and other electrical components. Product affords good moisture resistance, excellent varnish "pickup," conformability to irregular surfaces and resistance to tearing. It allows rapid, void-free impregnation. Moisture absorption of web is 0.5-per cent. It is white in color and is available in thicknesses ranging from 6.5 to 9.5 mils in 36-yd lengths and standard widths up to 44 in. Made by **Minnesota Mining & Mfg. Co.**, Dept. NED, 900 Fauquier St., St. Paul 6, Minn.

▲ For more details circle NED-884 L5 on enclosed inquiry slip ▲

FOUNDRY MOLD SPRAY eliminates long torching of molds



Developed to eliminate lengthy torching of molds and tunnel oven drying, Stevens Ignicoat foundry mold spray can also be applied by brushing or swabbing. By mixing Ignicoat with isopropyl alcohol and igniting, molds can be closed after short burning time. Fuel, maintenance and drying equipment expense is entirely eliminated. Spray produces smooth castings. Developed by **Frederic B. Stevens, Inc.**, 1802 Eighteenth St., Detroit 16, Mich.

▲ For more details circle NED-885 L5 on enclosed inquiry slip ▲

LOWER COST PARTS HANDLING IN THREE EASY STEPS
with the new NesTier Rollover Hopper

1 Parts go directly to production area in original shipping container. Box or keg, top removed, is placed in NesTier Rollover Hopper.

2 Retaining panel is lowered . . . unit rotated . . . and parts fall into hopper tray. Adjustable gate regulates rate of flow.

3 Now . . . a continuous flow of parts out of original shipping container is supplied to work in convenient hopper form . . . *without rehandling.*

C-339-DN

Write today for Bulletin ROH-201

NESTIER

THE CHAS. WM. DOEPKE MFG. CO., INC.
8884 Blue Ash Road • Rossmoyne, Ohio

▲ For more details circle NED-886 L5 on enclosed inquiry slip ▲

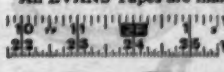
TO PURCHASING AGENTS ONLY!

FREE! Your Choice...
Evans KING-SIZE 10-ft. White-Tape (EXTRA-WIDE BLADE)
or Evans Pocket 12-ft. White-Tape (REGULAR ½" WIDE BLADE)

Attention Purchasing Agents!
We make this startling offer to introduce your company to Evans' superior King-Size and Pocket White-Tapes, the finest measuring tapes manufactured.
Simply fill in the coupon below and we'll send you, absolutely free and without any obligation, your choice of either our King-Size 10-ft. ($2.39 retail) or Pocket 12-ft. White-Tape ($1.89 retail)! (Offer limited to one tape per purchasing agent.)
We feel that once you try Evans Tapes, you'll never buy another brand. Here's why:

EVANS KING-SIZE
10-ft. ¾" Wide Steel Tape Stands Up Straight for Easy One-Man Measurements.
The 33% wider blade (full ¾") stays straight up—will not bend when making measurements. Chrome plated zinc die-cast case. Free belt clip for handy carrying and Free Tenite Utility Case. Self-adjusting sliding hook for accurate inside-outside measuring.
Also available in 6, 8, 12-ft. lengths.

All EVANS Tapes are marked so your men don't have to figure!



EVANS 12-ft. Pocket WHITE-TAPE
Measures a full 12 feet — eliminates adding two measurements as with shorter tapes. Regular ½" wide blade. Chrome plated zinc die-cast case. Self-adjusting sliding hook for 100% accurate inside or outside measurements. Free transparent Tenite Utility Case.
Also available in 6, 8, and 10-ft. lengths.
1074

Evans RULE CO., Department 122
400 Trumbull Street, Elizabeth, N. J.

Please send me free sample of (check one)
☐ King-Size 10-ft. Steel Tape ☐ Pocket 12-ft. White-Tape
My two sources of supply for steel tapes are:
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2_____
Name_____ Title_____
Company_____
Address_____
City_____ Zone____ State____

100 TO 40,000 POUND COIL CAPACITY
LITTELL REELS

No. 25-18—Littell Motor Driven Automatic Centering Reel With Arm Control. Coil Capacity, 2,500 lbs.

Whether you feed stock from 100 pound coils or 40,000 pound coils, there is a Littell Automatic Centering Reel to meet your needs . . . motor driven, electric brake and plain brake reels. Every Littell Reel is designed for swift, safe coil replacement and smooth, *controlled* uncoiling. All models combine smooth running accuracy with rugged construction that assures *extra* years of dependable service.

Ask for a Littell Coil Weight Calculator

Write for Littell Reel Catalog Data

F. J. LITTELL MACHINE CO. Speed with Safety

ROLL FEEDS • DIAL FEEDS STRAIGHTENING MACHINES REELS • AIR BLAST VALVES District Offices: Detroit, Cleveland

4169 N. RAVENSWOOD AVE., CHICAGO 13, ILL.

▲ For more details circle NED-887 L5 on enclosed inquiry slip ▲

FREE! CHAIN ENGINEERING CATALOG

Low cost, ruggedness and long service life are factors in your selection of Roller Chain. Since 1893, the Morse Chain Company has been supplying industry with finely engineered, precision-built Roller Chain Drives.

Find out how the efficiency and economy of Morse Roller Chains can benefit you. Get useful formulas and tabular information to help you easily compute your power transmission requirements.

Write for free Chain Engineering Catalog C 51-50. Get complete information on how Morse Roller Chains help you in your design and application needs.

MORSE CHAIN COMPANY, Ithaca, New York

MORSE BW CHAINS, COUPLINGS, AND CLUTCHES

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SEAL BOLTS, RIVETS, FLANGES

LEAK PROOF

VIBRATION PROOF

with **Dyna-seal**® by **Precision**

Engineered for rugged simplicity to give positive sealing without over-torquing bolts . . . to give lockwasher action for trouble-free installations . . . to save money on fabrication and assembly costs. Seals up to 10,000 psi, oils, gasoline, many chemicals and gases.

• Engineers everywhere use Precision Dyna-seals to *lick leakage*. We can help you too. Write today.

FREE handbook of Dyna-seal data ▶

Precision Rubber Products Corp.
Dept. 7, Oakridge Drive • Dayton 7, Ohio

▲ For more details circle NED-889 L5 on enclosed inquiry slip ▲

New Literature & Catalogs

Self-Spraying Containers

Sprayon Products, Inc.—"Aerosols Unlimited" is title of 12-page brochure which traces the development of the Aerosol self-spraying package and discusses the pros and cons of the pushbutton container. It tells manufacturers how they can evaluate their products for aerosol package and what advantages can be expected from it.

▲ For more details circle NED-890 L5 on enclosed inquiry slip ▲

Steel Refractory Retainers

Klemp Metal Grating Corp.—Versatile application of Hexteel and Floorsteel as armors and retainers for castable refractory monolithic linings are pointed up in new brochure. Hexteel is used to prolong life of installation by retarding abrasion and corrosion on refractory linings. Floorsteel is especially applicable to pipe linings, heads, plenum chambers, sumps, stacks and furnaces.

▲ For more details circle NED-891 L5 on enclosed inquiry slip ▲

Gap Frame Presses

Niagara Machine & Tool Works—Upright series B and open back inclinable series BI gap frame double crank presses are subject of 26-page illustrated bulletin No. 65C. Redesigned line features box type slide contained within the gibbing, abundance of die area, all-side accessibility of die area, feeding from either side or front to back and centralized oil lubrication. Detailed specifications are given.

▲ For more details circle NED-892 L5 on enclosed inquiry slip ▲

Sewerage & Waste Treatment Equipment

Filtration Equipment Corp.—Series of data sheets bound together comprises this catalog on special equipment for filter plant, sewerage treatment plants and industrial waste. General data, specifications and engineering details for Transite filter bottoms, filter operating tables, Parshall flumes and flume liners, slide gates and Transite wash troughs are included.

▲ For more details circle NED-893 L5 on enclosed inquiry slip ▲

Electric Heating Elements

Cutler-Hammer, Inc.—Tubular, strip, water and oil immersion types and domestic water heating elements in standard and custom types are featured in 24-page illustrated booklet EC-53. It includes selection charts and varied application and engineering data, as well as a price list.

▲ For more details circle NED-894 L5 on enclosed inquiry slip ▲

Protective Metal Coating

Fidelity Chemical Products Corp.—Laqua, a coating for metals that preserves chemically cleaned surfaces obtained directly after electroplating or a chemical cleaning operation, is described in illustrated 4-page folder. It is applied by spray or dip and has application in various fields. Physical and chemical data chart is included.

▲ For more details circle NED-895 L5 on enclosed inquiry slip ▲

Junction Transistors

Motorola Inc., Communications & Electronics Div. —"Theory and Application of Junction Transistors" is title of 8-page brochure prepared by staff members of this company's research laboratory. Theory of operation, characteristics, power gain measurement and other technical data are presented.

▲ For more details circle NED-896 L5 on enclosed inquiry slip ▲

Rubber Insulated Metal Parts

Automotive Rubber Co.—Rubber insulated metal parts such as clips, clamps and grommets, and rubber parts produced by the Form-Dipping process are described in illustrated data chart. Rubber insulated metal parts for cable, tube, wire, rod and pipe are shown. Applications, materials and engineering of parts are covered.

▲ For more details circle NED-897 L5 on enclosed inquiry slip ▲

Special Machine Tools

Snyder Tool & Engineering Co.—Past, present and future automation concepts for special machine tools are described from both engineering and application points of view in 24-page illustrated catalog. Methods of selecting economical automated special machines are described. Covered are 20 automated transfer type, line-index, trunnion type and rotary-index machine tools which perform a variety of metal-working operations.

▲ For more details circle NED-898 L5 on enclosed inquiry slip ▲

Another new development using
B. F. Goodrich Chemical *raw materials*

B. F. Goodrich Chemical Company does not make this pipe. We supply only the Geon resin.

PIPE DREAMS COME TRUE WITH GEON RIGID VINYL!

If you've dreamed of cutting piping costs, listen to this: General Electric Appliance Park reworked plans for a major piping installation, cut material costs in half by using pipe and fittings made from Geon rigid vinyl.

Corrosion-resistant Geon pipe —often more serviceable than high grade steel and alloys—is light in weight, saves in installation and changeovers, resists acids, alkalis, oil, and gas, and stands up to the hard knocks of an industrial environment.

High-impact pipe is just one of many money-saving uses for versatile Geon polyvinyl materials. Others include long-wearing floor tiles, colorful upholstery, tough insulation for wire and cable, hundreds more. To find out how Geon can fit into your future, please write Dept. BU-6, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

Geon Polyvinyl Materials

GEON RESINS • GOOD-RITE PLASTICIZERS . . . the ideal team to make products easier, better and more saleable
GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

▲ For more details circle NED-899 L5 on enclosed inquiry slip ▲

ROCKFORD

CONSERVATIVELY RATED

SELF CONTAINED UNIT
WIDE RANGE OF SIZES
CONSERVATIVE RATING
ROLLER BEARINGS
FINE ADJUSTMENT
ACCURATE BALANCE
S.A.E. DIMENSIONS

* ROCKFORD POWER TAKE-OFFS are designed for generous overload capacity, when the standard length shaft is used and the center of the load is placed at a point half way along the shaft extension. The proportions of the shaft and bearings are determined by the load capacity of the clutch selected.

Send for This Handy Bulletin Shows typical installations of ROCKFORD CLUTCHES and POWER TAKE-OFFS. Contains diagrams of unique applications. Furnishes capacity tables, dimensions and complete specifications.

ROCKFORD CLUTCH DIVISION BORG-WARNER
312 Catherine Street, Rockford, Illinois, U.S.A.

CLUTCHES

▲ For more details circle NED-900 L5 on enclosed inquiry slip ▲

HOT METALLIC COATINGS
TIN
TIN - LEAD
Solder
LEAD

ELECTRO-PLATING
TIN
TIN - ZINC
TIN - LEAD
Solder
LEAD

ON BRASS, COPPER
STEEL
ALUMINUM
Fabricated and Cast

WANTED

"Wright" wants those extra tough Metalcoating jobs!

Developing advanced techniques to satisfy your most exacting needs . . . is our specialty.

Of course we're equipped to do the easier jobs too, and we'll be glad to quote on them.

WRIGHT METALCOATERS, INC.
235 West Street South Hackensack, N. J.

▲ For more details circle NED-901 L5 on enclosed inquiry slip ▲

BREATHER-FILTER
protects housings, crankcases, storage tanks

The Air-Maze breather-filter keeps dust out of engine and compressor crankcases, gearcases, hydraulic equipment, liquid storage tanks and machinery. Types and sizes available in both oil-wetted and oil bath models to protect every vented housing.

In the oil-wetted type, dust is impinged on a series of oil-wetted wire baffles. In the oil bath type, used where the dust concentration is unusually high, the filter media is enclosed in a bowl. Outside air must first pass through the oil, then the filter media, before entering crankcase or housing. Also functions as a backfire flame arrester.

Available in sizes from ⅛" to 10". Permanent, all-metal, easily cleanable. Write for booklet BC-750. Made by **The Air-Maze Corporation,** 25000 Miles Avenue, Cleveland 28, Ohio. *(Advt.)*

▲ For more details circle **NED-902 L5** on enclosed inquiry slip ▲

NEW! for miniaturization

Lollypop precision wire-wound Resistor Davohm Type 1273

Only 1/4" in diameter by 5/16" long, yet is available in values as high as 400,000 ohms

* Fully encapsulated
* Exceeds all humidity, salt water immersion and cycling tests as specified in MIL-R-93A, Amendment 2
* Operates at 125°C continuous power without de-rating
* Can be obtained in tolerances as close as ±.02%
* Standard temperature coefficient is ±20 PPM/°C. Special coefficients can be supplied on request

Write for complete resistor catalog

THE DAVEN CO.
542 West Mt. Pleasant Ave., Livingston, N. J.
WORLD'S LARGEST MANUFACTURER OF ATTENUATORS

▲ For more details circle **NED-903 L5** on enclosed inquiry slip ▲

INDUSTRIAL *Stacked* RETAINING RINGS

SLASH ASSEMBLING TIME SPEED PRODUCTION

Patented

Industrial's revolutionary modern dispensing is *guaranteed* to save time and dollars. One motion takes the place of many motions wasted in assembling parts and unstacked open-type retaining rings. With an Industrial Stack, every ring and every motion counts. Try and you'll wonder why you ever struggled with tangled, unstacked rings.

LAST CHANCE to get Industrial's specially designed base and tool *FREE* with initial order. This get-acquainted offer expires January 31, 1956. Write today for illustrated brochure.

INDUSTRIAL RETAINING RING CO.
8 WEST SIDNEY AVE., MOUNT VERNON 4, N. Y.

▲ For more details circle **NED-904 L5** on enclosed inquiry slip ▲

New Processes & Materials

FLOOR PATCHING MATERIAL
can be applied over wet floors

Resistance to oils, grease, acids and alkalies is claimed for 45 Patch, a floor patching material that can be applied over wet floors. It is offered in powder form and is mixed with water at time of application. Quick-setting powders in the mixture assure maximum set-up time of 4 hours. Repaired floors can be used within 24 hours. Material forms a permanent bond with existing floors, can be painted over, used inside or outside and will not chip or crack after setting. Made by **Colonial Refining & Chemical Co.,** Dept. NE-1, 817 NBC Bldg., Cleveland 14, O.

▲ For more details circle **NED-905 L5** on enclosed inquiry slip ▲

BARREL FINISHING COMPOUNDS
will not plug tapped or blind holes

Line of abrasive, burnishing, cleaning and neutralizing compounds is available for varying requirements in progressive stages of barrel finishing operations. When properly used, they will not paste, plug or bind up tapped or blind holes. Class A compounds for heavy deburring and cutting are used for initial stages of finishing. Class B compounds for regular deburring and semiburnishing can be used for follow-up finishing, while Class C compounds are for burnishing. Class D compounds for cleaning possess wetting agents and dispersers which have a high detergency value and buffing action. Compounds are suited for use with Polishape and Burnishape cast zinc alloy media, but can be used with other media types. Made by **Newton Industries, Inc.,** 152 Saw Mill Rd., West Haven, Conn.

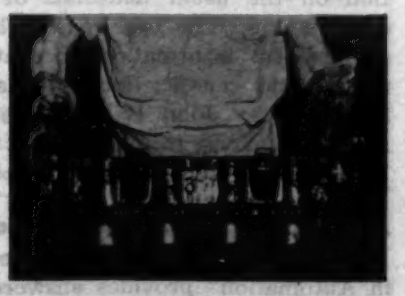
▲ For more details circle **NED-906 L5** on enclosed inquiry slip ▲

COLORED ALUMINUM
various shapes in varied colors

Blue, green, yellow, gray, brown, gold and black metallic anodized finishes can be ordered direct from the mill on aluminum sheet, extruded shapes, rod, bar and drawn and extruded tube. Shade variations of these standard colors can also be obtained. The clear, hard oxide coating is artifically built up and sealed in to become an integral part of the metal. Decorative color finish is available for both interior and exterior applications, while architectural finishes are primarily for hard-weathering exterior service. Both are supplied in all extruded forms and flat sheet, including pattern sheet. Decorative finishes are also offered in coiled sheet. Developed by **Aluminum Co. of America,** 769 Alcoa Bldg., Pittsburgh 19, Pa.

▲ For more details circle **NED-907 L5** on enclosed inquiry slip ▲

FOUNDRY CORE COATING
for gray iron, brass, bronze, alloys



Graphite base Graph-Kote foundry core coating makes possible rapid dipping of cores as there is no rundown, tear drops or build up on the core. Its use helps keep core conveyors and oven racks clean. The coating stays on the dipped core areas so that prints and assemblies fit accurately. Use can be for gray iron, brass, bronze and special alloys. Available from **Frederic B. Stevens, Inc.,** 1802 Eighteenth St., Detroit 16, Mich.

▲ For more details circle **NED-908 L5** on enclosed inquiry slip ▲

R&M HOISTS • CRANES • WINCHES

LOW PRICE ELECTRIC CHAIN HOIST

capacities to 2000 lbs.
lifts up to 60 ft.
prices start at $207.00

Robbins & Myers quality throughout, JC chain hoists are available from stock now, at new low prices! Features include: Special R & M hoist motor—Unit cast aluminum frame—Weston-type load brake—Sealed bearings throughout—Welded alloy steel link chain—Forged steel hook—Speed choice 34, 17, or 9 f.p.m.—Pendent rope control—Hook or trolley mounting. Write for Bulletin No. 852-B.

take it up with ROBBINS & MYERS, INC.
SPRINGFIELD, OHIO BRANTFORD, ONTARIO

▲ For more details circle **NED-909 L5** on enclosed inquiry slip ▲

O-M CYLINDERS (air • hydraulic)

. . . an important part of the automation picture
MICHIGAN TOOL COMPANY

O-M cylinders (shown here installed on an automated speeder) are an integral part of "Gear-O-Mation" at Michigan Tool Company. In their automatic gear production line, O-M cylinders provide the muscle in the movement or holding of parts.

Important factors in Michigan Tool's choice of O-M cylinders for these machines were: *COMPACTNESS OF DESIGN*—their cleaner, more streamlined construction that allows installation in less space; *LESS MAINTENANCE*—easier to clean, inspect, remove, dis-assemble and service, if necessary, with no special equipment or skills needed. Knocks out downtime, keeps loading equipment in continuous operation.

O-M air and hydraulic cylinders are available in complete range of sizes (1½ to 8" bores), with standard, 2 to 1 or oversize rods. All steel construction with bearing bronze. Completely interchangeable parts. Immediate delivery on many sizes.

Whatever your particular straight-line motion applications may be, an O-M Field Engineer will be happy to call and discuss them with you. Just mail coupon . . . no obligation, of course.

O-M CYLINDERS fit where others won't

Write for FREE CATALOG!
Shows all cylinders, mounts and mounting brackets.

MAIL COUPON NOW!

ORTMAN-MILLER MACHINE COMPANY
9 143rd Street, Hammond, Indiana
☐ Have representative call ☐ Send latest catalog
Name_____ Position_____
Company_____
Address_____
City_____ Zone____ State_____

▲ For more details circle **NED-910 L5** on enclosed inquiry slip ▲

TRUFLEX® Thermostat Metal Coils Over ½ Mile Long in One Piece Simplify Fabrication and Reduce Costs in Thermal Element Manufacture

The problem . . . to obtain thermostat metal strip in a series of types having sufficiently uniform dimensional control and temperature response to be fabricated into finished parts on automatic machines. **The solution** . . . Step 1; the consistent quality of each type of TRUFLEX tested quickly demonstrated that mass production by machine was fully practical for all types.

Step 2; General Plate Division then supplied the required types in long coils 3 feet in diameter with center hole to fit the customer's automatic machine arbors. Each coil is a continuous piece 1800 feet long, by 0.040" thick and 0.250" wide.

These coils save the customer many dollars by minimizing idle machine time and eliminating costly waste of material in fabrication.

If your products require temperature control . . . indication or compensation, the accurate performance and uniform high quality of TRUFLEX Thermostat Metals will save you money too.

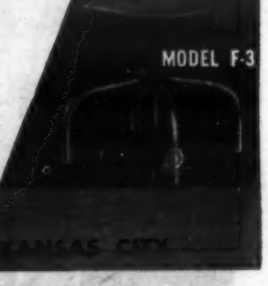
General Plate Division will fabricate parts from TRUFLEX to meet particular applications. Or, if you prefer to make your own parts, General Plate Division will supply TRUFLEX Thermostat Metal in strip to meet your specifications.

Write today for your copy of the new TRUFLEX Thermostat Metal Catalog.

METALS & CONTROLS CORPORATION
GENERAL PLATE DIVISION
811 Forest Street, Attleboro, Mass.

▲ For more details circle NED-913 L5 on enclosed inquiry slip ▲

You can
STEP UP PRODUCTION
by providing correctly-designed and comfortable
Factory Chairs



Cramer
OF KANSAS CITY

ENGINEERED for long trouble-free life and hard service; quality built of cast aluminum and tubular steel with a permanent enamel finish; provided with THREE ADJUSTMENTS . . . height of seat, depth of seat and height of back . . . to give proper support for workers of any build. The most *economical* long-term chair investment you can make is in CRAMER chairs.

Investigate!
Write today to DEPT. NE-1.

MANY OTHER MODELS TOO

▲ For more details circle NED-914 L5 on enclosed inquiry slip ▲

FULFLO CENTRIFUGAL **COOLANT PUMPS**

Circulate and pump coolants where volume is essential with low head pressure

GET ALL THESE IN EVERY FULFLO

- constant pumping action
- chips or grit cannot interfere
- spring tension packing prevents leaks
- no bearing in pump to wear out
- pump shaft replaced easily
- automatic adjustment
- carbon seal, if desired
- splashproof, ball-bearing motors

WRITE FOR FULFLO MECHANICAL DATA BOOK on your letterhead.
State if for Pumps, Valves, or both.

Model FVM

FULFLO THE FULFLO SPECIALTIES CO. Inc.
PUMP AND VALVE MANUFACTURERS
BLANCHESTER, OHIO

▲ For more details circle NED-915 L5 on enclosed inquiry slip ▲

New Literature & Catalogs

Custom Springs & Wire Specialties

Automatic Spring Coiling Co.—Illustrated directions and other instructions for specifying springs as well as bent wires and shapes are contained in 8-page illustrated booklet "Precision Mechanical Springs." Types and classes of springs produced to customer specifications or engineered for specific job are shown.

▲ For more details circle NED-916 L5 on enclosed inquiry slip ▲

Automatic Gear Grinders

Gear Grinding Machine Co. — 8-page illustrated brochure "For the First Time" announces a new line of fully automatic gear grinding machines for automotive, aircraft and industrial use. Capacities of internal grinders range to 30-in. pitch diameter by 6-in. face width. Corresponding capacities of external machines are up to 36-in. pitch diameters and 48 in. between centers.

▲ For more details circle NED-917 L5 on enclosed inquiry slip ▲

Guide to Industrial Diamond Use

Elgin National Watch Co., Abrasives Div.—Advantages offered by diamond abrasive for both rough grinding and final polishing are clearly shown in 12-page guide book "Metallographic Polishing with Diamond." This is one of a series of booklets prepared in a continuing program aimed at keeping industry informed on the effective and economical use of industrial diamonds.

▲ For more details circle NED-918 L5 on enclosed inquiry slip ▲

Dust Filter Facts

Day Co.—28-page illustrated catalog 559 deals with use of Reverse Jet dust filters in solving various industrial and processing plant dust control problems. Operating diagrams, performance curves for various types of dusts and air engineering data are included.

▲ For more details circle NED-919 L5 on enclosed inquiry slip ▲

Industrial Rubber Products

Thermoid Co.—Hose of all types, conveyor and elevator belts, transmission and V-belts, sheet packing, chute lining and friction materials are some of the more than 90 industrial rubber products described in 6-page "Catalog Digest."

▲ For more details circle NED-920 L5 on enclosed inquiry slip ▲

Pneumatic Devices

Bellows Co.—"Controlled-Air-Powered Devices" is title of 8-page illustrated bulletin ML-3. It describes the Bellows Air Motor, the air cylinder with a built-in valve, as well as such standard pneumatic devices as drill press feeders, vises, Hydro-Checks, rotary feed and index tables, self-contained drilling units, valves and cylinders.

▲ For more details circle NED-921 L5 on enclosed inquiry slip ▲

Applications for Flexible Shafts

Elliott Mfg. Co.—More than 20 actual applications of flexible shafts for power transmission and remote control functions are depicted and described with case studies in 8-page illustrated bulletin 247. Included is flexible shaft selection chart which gives recommended core sizes based upon speed and torque requirements of any drive application.

▲ For more details circle NED-922 L5 on enclosed inquiry slip ▲

Handbook of Engineering Materials

The latest addition to the Wiley Engineering Handbook Series is fully-indexed well-illustrated 1392-page "Handbook of Engineering Materials." Prepared by a staff of specialists under the guidance of editors Douglas F. Miner and John B. Seastone, this manual is designed to meet a need, chiefly among engineers, for a single source of authentic and useful information on the usual materials of manufacturing and construction. The four major classifications covered are general information on materials, metals, nonmetals and construction materials. Price is $17.50. Published by John Wiley & Sons, Inc. 440 Fourth Ave., New York 16, N. Y.

▲ For more details circle NED-923 L5 on enclosed inquiry slip ▲

Automation in Materials Handling

Whiting Corp.—"Planning the Crane for Its Use in Automation" provides answers to questions about the place of overhead materials handling in the continuing trend toward automation. Examples are given of the application of various types of cranes in different types of industries. Ask for Bulletin M-30.

▲ For more details circle NED-924 L5 on enclosed inquiry slip ▲

NOW **GRAVELY** *Gives You Push Button Snow Removal!*

• CHOICE OF 3 SNOW REMOVAL TOOLS •
Each With New Gravely Self-Starter

A new experience in snow removal — simply push the button and your Gravely Tractor is ready for the toughest snow removal job!

The *only* 5-HP Tractor that offers a choice of Snowblower, Snow Plow or Power Brush for snow removal. Choose the tool to fit your particular job!

• ONE TRACTOR — 23 ATTACHMENTS •

23 tools to choose from for year 'round grounds maintenance tasks. From 75" gang mowers to 48" Snowplow, the Gravely saves time and money all year . . . *Write for catalog . . . or "How to Solve Removal Problems" . . . TODAY!*

GRAVELY TRACTORS, INC.
BOX 1180 DUNBAR, WEST VIRGINIA

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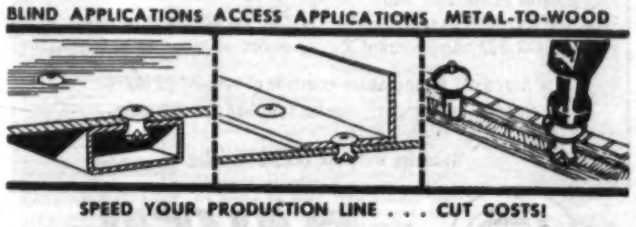
LOOK HOW EASY... AND FAST RIVETING CAN BE WHEN YOU USE DRIVE RIVETS!

SOUTHCO

Rivet and Mfg. Patented.

a hammer is the only tool
...drive like nails
...automatic "pull-up" action

Fastest for:
BLIND APPLICATIONS ACCESS APPLICATIONS METAL-TO-WOOD



SPEED YOUR PRODUCTION LINE . . . CUT COSTS!

For complete data, write Southco Division, South Chester Corporation, 243 Industrial Highway, Lester, Pa.

SOUTHCO FASTENERS ©1955 Whenever two or more parts are fastened together.

▲ For more details circle NED-926 L5 on enclosed inquiry slip ▲

MYSTIK BRAND • SELF-STIK New!

Flexstron Trademark 6220

"Tarzan of the Tapes"

cuts packaging costs... speeds operations!

Flexible as ribbon . . . Strong as wire! A tough, rubber-fibrous, high tensile filament reinforced tape for heavy duty packaging and packing jobs—strapping, bundling, binding, reinforcing, palletizing. Safe to handle—needs no special equipment—grips instantly—conforms to all shapes—will not cut into cartons. Write for full information and free sample. Mystik Adhesive Products, 2657 North Kildare Ave., Chicago 39.

T. M. Mystik Registered © 1953 Mystik Adhesive Products

▲ For more details circle NED-927 L5 on enclosed inquiry slip ▲

NEVER BEFORE

A Hose Clamp So Easy to Attach and Detach!

NEW *Aero-Seal* JET!

Now AERO-SEAL hose clamps have been improved with a new exclusive patented feature that permits *faster* installation and removal.

To attach, push housing to desired position on the band, snugly around hose, and threads of worm screw will drop in the slots. Now tighten worm screw to fasten securely. To remove, loosen worm screw; at the same time lift screwdriver head and clamp will open. But like all AERO-SEALS, it won't budge till you want it to.

Stick with the finest — at *no* extra cost! It's TURN-OVER, not discount, that makes profits. Ask your jobber!

BREEZE — Aero-Seal JET QUICK ATTACH HOSE CLAMP

BREEZE CORPORATIONS, INC., 700 Liberty Avenue, Union, N. J.

▲ For more details circle NED-928 L5 on enclosed inquiry slip ▲

STRAIGHT-LINE Temperature CONTROL ... at NO ADDED COST!

BLUE M's AMAZING NEW POWER-O-MATIC

U. S. AND FOREIGN PATENTS PENDING

BLUE M INDUSTRIAL BATCH OVENS

AUTOMATICALLY PROPORTIONS MINIMUM WATTAGE in relation to TEMPERATURE and WORK LOAD

SAVES 23.8% OPERATING COSTS

Power-O-Matic achieves Straight Line temperature thru automatic proportional wattage control. (5) Modella Multiple Heater Banks controlled by (5) related control contacts individually, in sequence, and as a total group. Operator merely sets working temperature energizing all (5) Heater Banks. When temperature is reached, POWER-O-MATIC *automatically* selects minimum wattage to maintain Straight Line Temperature.

OUTPERFORMS ALL OVENS — GUARANTEED

OPERATOR ONLY SETS TEMPERATURE. NO AUXILIARY SWITCHES TO SET. NOTHING TO REMEMBER.

- TEMP. RANGE: 100° to 600°F.
- AUTOMATIC HEAT RECOVERY
- DIAGONAL FORCED AIR FLOW
- LOWER PIECE PART COST
- LOWER K. W. REGISTRATION
- 24 VOLT CONTROL CIRCUIT

SAFE CONTINUOUS OPERATION

NO PRODUCTION INTERRUPTIONS, PROGRESSIVE HEATER BANK TAKE OVER

MODEL NO.	INSIDE DIMENSIONS W.	D.	H.	MAX. K.W.	VOLTAGE 50/60C. A.C. 3 PHASE	COMPLETE PRICE
POM-16	24	48	24	10	230 V.	$ 775.00
POM-24	36	48	24	14	230 V.	975.00
POM-32	48	48	24	18	230 V.	1,225.00

Write for complete POWER-O-MATIC story

BLUE M ELECTRIC COMPANY
138th and CHATHAM, BLUE ISLAND, ILLINOIS

▲ For more details circle NED-929 L5 on enclosed inquiry slip ▲

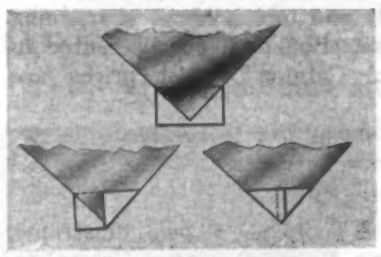
New Processes & Materials

DRY POWDER LUBRICANT
is fine, penetrating, will not soil

Reportedly finer than face powder, Dry - Lube, air-floated dry powder lubricant has exceptional penetration for lubricating locks, office machinery, casters, sewing machines, clocks, hinges and machinery. It can also be used to prevent doors and windows from sticking. Product is white and will not soil hands or clothing. It is offered in squeeze bottles as well as in 1, 5 and 10-lb cans and in 25, 50 and 100-lb drums. Made by **Reardon Products**, 305-07 Cass St., Peoria, Ill.

▲ For more details circle NED-930 L5 on enclosed inquiry slip ▲

PROTECTIVE CORNER PADS
self-adhering type for sheet metal



All four corners of metal sheets are protected from damage at a cost of less than 1½ cents by these Corner-Pads. They are made of thick, treated paper stock which has a high resistance to piercing. High-tack pressure-sensitive adhesive coating holds corners securely in position during handling and fabrication operations. Two sizes are offered in rack size rolls which are partially scored so that they can be separated into pocket-size swatches, if desired. Free samples are offered. Made by **By-Buk Co.**, Dept. 34, 4314 W. Pico Blvd., Los Angeles 19, Calif.

▲ For more details circle NED-931 L5 on enclosed inquiry slip ▲

POLYSTYRENE ADHESIVE
adheres plastic to many materials

Styrofoam, a polystyrene plastic, can be made to adhere to itself, metal, wood, fiberboard, plastic, paper, cloth and other materials by using Styrofoam Adhesive No. 5. It is a clear, water-white liquid of mucilage viscosity with a pleasant solvent odor. Application is with a brush. The quick-drying adhesive, like Styrofoam, withstands the effects of water and water vapor. Made by **Federal Adhesives Corp.**, 212 Wythe Ave., Brooklyn 11, N. Y.

▲ For more details circle NED-932 L5 on enclosed inquiry slip ▲

ALUMINUM PUTTY
for filling holes in castings can be machined to feather edge

As easy to use as modeling clay, Devcon F aluminum putty, consisting of 80 per cent aluminum and 20 per cent plastic, can be used effectively to fill holes in aluminum and steel castings, or to build up worn sections. It has excellent adherence to these metals as well as to bronze, brass and cast iron, and can be machined to a feather edge. Machined surface has appearance of polished steel. Treatment of underlying metal is unnecessary.

Putty will harden in 2 hours, or in a few minutes if heat is used. It will not crack or flake off during later machining, sand blasting or abrasive tumbling operations. Standard paints can be used to coat Devcon F, and regular baking temperatures will not cause it to bubble, shrink or run. Product is packed in 1, 4 and 15-lb containers and has practically unlimited storage life. A trial package consisting of four 1-lb cans of putty, four small jars of hardener and two measuring spoons is offered for $11.40. Developed by **Chemical Development Corp.**, Dept. D, Box 2, Danvers, Mass.

▲ For more details circle NED-933 L5 on enclosed inquiry slip ▲

A-47

Precise PRESSURE Measurement

Sensitivity 0.2%

W&T PRECISION LOW PRESSURE GAUGE—FA-141

Ranges: All ranges from 0-10 inches water to 0-30 inches Hg.

Write today for Publication No. TP-27-A

WALLACE & TIERNAN

ELECTRICAL MECHANISMS AND PRECISION INSTRUMENTS
Belleville 9, New Jersey — Represented in Principal Cities
In Canada, Wallace & Tiernan Products, Ltd.—Toronto

▲ For more details circle NED-934 L5 on enclosed inquiry slip ▲

called upon by leading manufacturers...

Loyd Scruggs Shaded Pole and Universal Motors

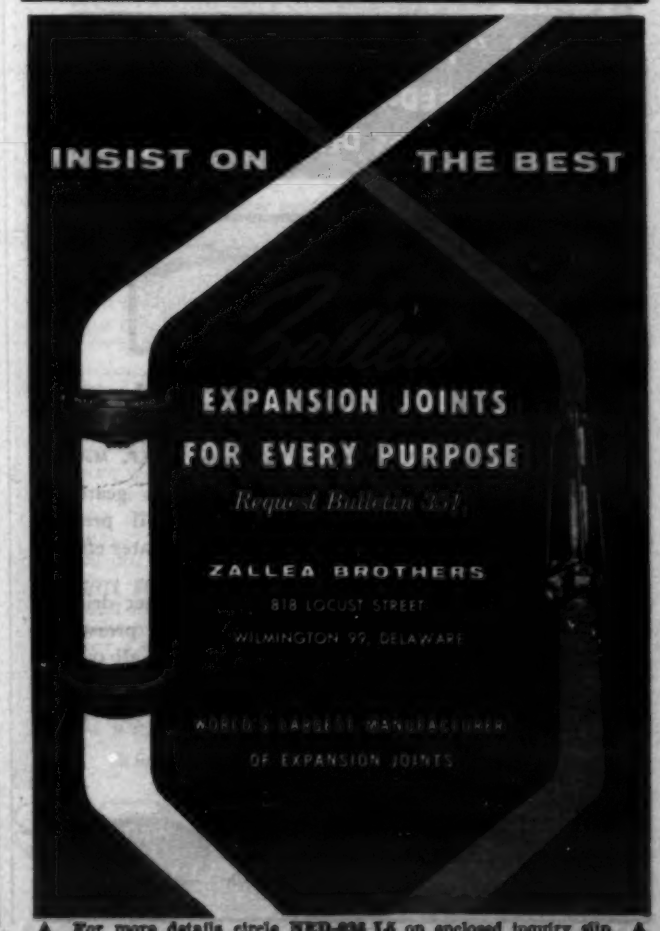
have helped in the development of many nationally famous products. Let us help you develop a better product at a lower cost. Give us your specs ... a Scruggs motor will be tailored to fit them. Write Loyd Scruggs Co., Festus, Mo.

You can stake your reputation on SCRUGGS MOTORS

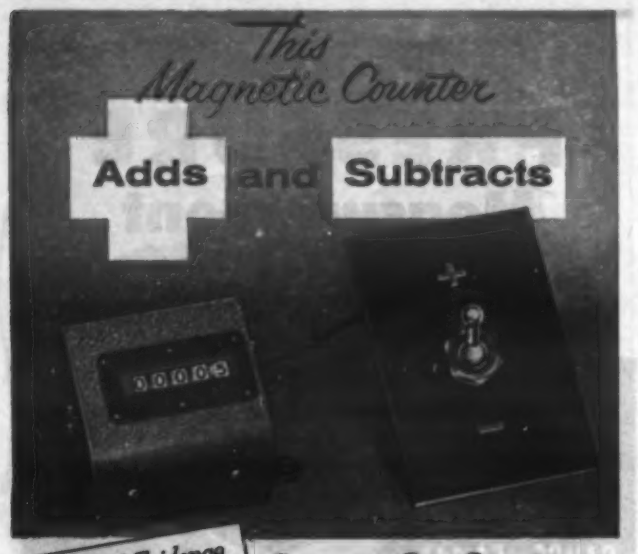
THE Loyd Scruggs COMPANY
FESTUS, MISSOURI

MANUFACTURERS OF PRECISION INSTRUMENTS SINCE 1934

▲ For more details circle NED-935 L5 on enclosed inquiry slip ▲



▲ For more details circle NED-936 L5 on enclosed inquiry slip ▲



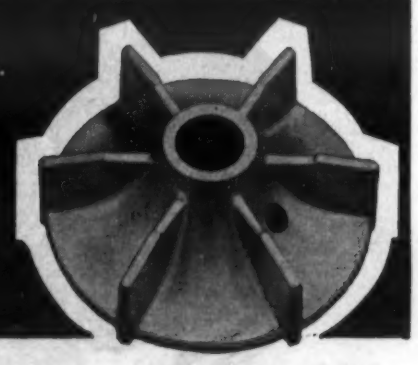
Added Evidence that — Everyone Can Count on VEEDER-ROOT

Flip the switch up . . . the counter adds. Flip it down . . . it *subtracts*. And this 2-way countability makes this new counter a distinct asset to modern systems of automation, control engineering and stock control. Readily adaptable, easily installed and connected to existing circuits, the Veeder-Root "plus or minus" counter is a reliable double-check on the operation of machines, processes, systems.

VEEDER-ROOT INC. Hartford 2, Conn.

▲ For more details circle NED-937 L5 on enclosed inquiry slip ▲

another case where
MUELLER BRASS CO. FORGINGS
improve
a product . . .



diesel engine
water pump
impeller

forged of
"603" HIGH STRENGTH BRONZE

By replacing sand-castings with forgings of "603" high strength bronze, this manufacturer produced a superior pump impeller. Due to the better corrosion resistance, uniformity, and surface finish of the forgings, a more efficient and long-lived pump is now produced. Why not talk to Mueller Brass Co. engineers about the use of bronze forgings in your product, too?

MUELLER BRASS CO.
PORT HURON 27, MICHIGAN 162-A

▲ For more details circle NED-938 L5 on enclosed inquiry slip ▲

New "PULL-GEAR" SPEED-REDUCING PULLEY
Increases Drill Press Capacity

NEW MODEL
Provides Correct Speed and Power to Drill Up to 1⅜" with ½ H.P. Motor

Amazing new internally geared speed reducer doubles drill press capacity. Greater power, greater efficiency, greater productivity.

Provides the correct speed and power for larger drilling, reaming, tapping and boring on light presses. Easily installed in five minutes. Adaptable to all type machines. Spindle speed range approx. 45 to 3000 RPM. Made in 3 motor shaft sizes: ½"-⅝"-¾". Write for literature.

Some Territories Open to Jobbers

THE PULL-GEAR CO.
25425 Mound Rd. Centerline, Mich
WRITE FOR LITERATURE

▲ For more details circle NED-939 L5 on enclosed inquiry slip ▲

New Literature & Catalogs

Training Kit for Sketching

Northrop Aeronautical Institute, Inc., Technical Service Div.—Details of the Sketch-Easy training course for industrial employees are presented in well-documented brochure. The training kit consists of instructions, sample sketches, illustrated instruction book and plastic template. This visual aid will enable anyone to produce quick legible liaison and shop fabrication sketches. Full details of the course are presented.

▲ For more details circle NED-940 L5 on enclosed inquiry slip ▲

Industrial Electronic Tubes

Technical data on 130 small electronic receiving-type tubes for industry and communications are tabulated in 20-page illustrated manual RIT-104. Described are pencil type, computer, glow-discharge, thyratron, low-microphonic amplifier and special tubes. Price is 20 cents. Order directly from Radio Corp. of America, Tube Div., 415 S. Fifth St., Harrison, N. J.

▲ For more details circle NED-941 L5 on enclosed inquiry slip ▲

Milling & Cutting Tools

Viking Tool Co.—Inserted blade milling cutters, replacement blades and cutter accessories, carbide milling cutters, taper arbors and centering plugs, carbide single point tools and tool holders, sharpening fixtures and carbide selection data are presented in 44-page "Viking Tool Catalog." List prices are given.

▲ For more details circle NED-942 L5 on enclosed inquiry slip ▲

Cutting Tools

National Twist Drill & Tool Co.—48-page illustrated cutter net price catalog No. 18-C contains complete listings and prices of milling cutters, counterbores, end mills and hobs which are carried as stock items. Data are given on all types and sizes of cutters as well as on tool accessories and complete sets of tools.

▲ For more details circle NED-943 L5 on enclosed inquiry slip ▲

Wood Fiber Panels & Cut-Outs

Upson Co.—Uses of wood fiber panels and cut-outs in manufacturing, packaging and shipping, furniture and toy manufacturing, industry, and displays and advertising are illustrated in 20-page brochure 1151. Company's cutting, punching, drilling and cut-scoring facilities are shown as well as special panel grades and thicknesses.

▲ For more details circle NED-944 L5 on enclosed inquiry slip ▲

Milling Cutter Helical Inserts

Kennametal Inc.—Helical inserts for milling cutters, together with spiral fluted blanks for end mills, reamers and drills are highlighted in brochure B 112. Straight gash inserts for cutters 4 in. and larger, uniform section helical inserts for 2-in. cutters and solid and bushing type shapes for cutters less than 2 in. in diameter are described.

▲ For more details circle NED-945 L5 on enclosed inquiry slip ▲

Instrumentation Literature

Minneapolis-Honeywell Regulator Co., Industrial Div.—Catalogs, bulletins, specification sheets, data sheets and articles on instrumentation are listed in 24-page bulletin 100-D. It is broken down by general subject, product and industry to facilitate use.

▲ For more details circle NED-946 L5 on enclosed inquiry slip ▲

Positive-Displacement Blower

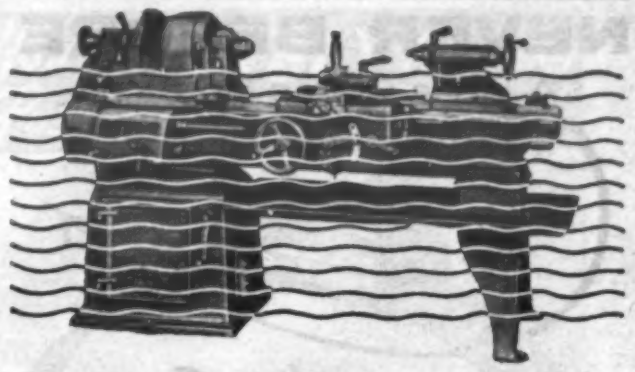
Read Standard Corp.—Technical information on the Standardaire axial-flow positive-displacement blower is presented in 4-page B-154. Blowers take in and discharge air from the pockets that form between intermeshing male and female rotors during rotation. They handle air or any other gas under either pressure or vacuum.

▲ For more details circle NED-947 L5 on enclosed inquiry slip ▲

Open Throat Presses

Diamond Machine Tool Co.—Punch press applications in 34 different plants operating Multi-Max open throat presses are illustrated in 20-page catalog "Profit from Presses." Actions pictured include automatic feeding with a roll feed through 10-stage progressive die; flash trimming; automatic pressing of aluminum foil pans, roof decking, asphalt tile, etc.; and perforating holes in large sheets of hardboard, paper and rubber.

▲ For more details circle NED-948 L5 on enclosed inquiry slip ▲



stop vibration
CUT MAINTENANCE COSTS WITH
Westsorb® ADHESIVE-COATED FELT MOUNTS

Almost any machine in your plant will run smoother and quieter and with longer time between shut-downs if mounted on Vibration-absorbing Westsorb.

Pre-applied to both sides. Peel off protective backings and Westsorb is ready for use. Sticks firmly to any dry surface — NO BOLTS needed.
SEND FOR DESCRIPTIVE FOLDER NOW!
Dealer Inquiries Invited

WESTERN Felt WORKS
4021-4139 Ogden Ave.
Chicago 23, Illinois
Branches in all Principal Cities
MANUFACTURERS AND CUTTERS OF WOOL FELT

▲ For more details circle NED-949 L5 on enclosed inquiry slip ▲

OFF SHELF DELIVERY!

T-J Spacemaker CYLINDERS

OIL pressure to 750 — AIR to 200 P. S. I.

Now the sensational new T-J Spacemaker sets the pace in compact cylinder design and efficient performance!

New "Self-Aligning" adjustable oil cushion means faster acceleration and better cushion than ever before . . . New T-J Super Cushion Flexible Seals for air insure positive cushion with automatic valve action for fast return stroke.

More plus features include—heavy wall, precision honed, hard chrome plated, seamless steel body . . . leakproof cylinder head to body construction . . . heavy duty, high-tensile, *hard chrome plated piston rod.* Write for bulletin SM-454-2. The Tomkins-Johnson Co., Jackson, Mich.

T-J TOMKINS-JOHNSON
RIVETORS · AIR AND HYDRAULIC CYLINDERS · CUTTERS · CLINCHORS

▲ For more details circle NED-950 L5 on enclosed inquiry slip ▲

Something NEW in Accident Prevention!
360° INDUSTRIAL WARNING LIGHT

TRIPPE HI-BALL

STOP TROUBLE AT ITS SOURCE!

Mount anywhere at any DANGER point—powerful flash gives instant warning. May be used in many ways for many purposes. In combination with a siren gives visual warning as well as audible.

9½-in. diameter; plastic dome available in Red, Amber, Blue, Green or clear. Parabolic mirror revolves around powerful light source 60 times a minute. 115-130 V. A.C. Weight 6 pounds.

WIRE or WRITE for Catalog and Prices

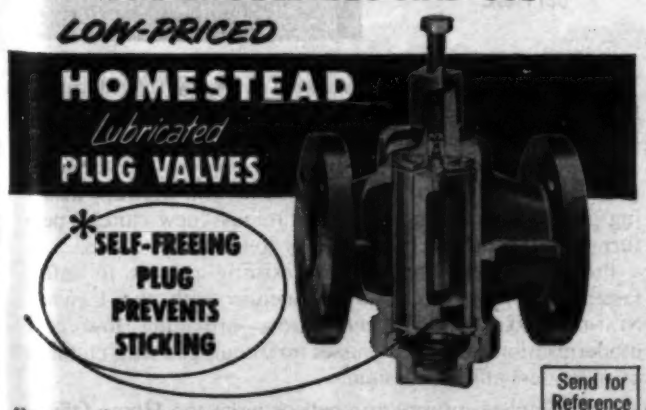
TRIPPE MANUFACTURING CO.
218-K N. Jefferson Street, Chicago, Illinois

▲ For more details circle NED-951 L5 on enclosed inquiry slip ▲

▲ For more details circle NED-952 L5 on enclosed inquiry slip ▲

▲ For more details circle NED-953 L5 on enclosed inquiry slip ▲

No. 5* of 12 REASONS WHY YOU SHOULD BUY AND USE



Send for Reference Book #39-5

Homestead's completely controlled lubricant system prevents sticking by piston-like movement of plug downward at each lubrication. Spring and line pressure return it to stem-sealed position.

This is only **one reason why you should buy and use low-priced** HOMESTEAD LUBRICATED PLUG VALVES.

HERE ARE ALL TWELVE

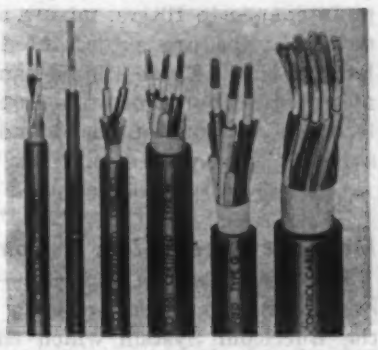
1. Long valve life assured by very close tolerance between sealing surfaces.
2. Straight line fluid flow—streamlined ports—minimum resistance to flow—minimum pressure drop.
3. Triple head seal—two lubricant rings, reinforced Teflon stem seal prevent leakage.
4. Easy turning—plug floated on Teflon washer and reinforced Teflon ring.
5. Leak-proof double ball, lubricant sealed check valve. No springs. No maintenance.
6. Full-threaded screw prevents dirt being forced into lubricant system.
7. Quarter-turn fully opens or closes.
8. Reinforced Teflon stem seal—no cold flow—continuous, positive seal.
9. Seating surfaces protected in both open and closed positions.
10. High pressure lubricant system provides full lubricant seal around ports.
11. Self-freeing plug prevents sticking.
12. Two lubricants handle most services.

HOMESTEAD VALVE MANUFACTURING CO.
P. O. BOX 84 CORAOPOLIS, PA.

▲ For more details circle NED-954 L5 on enclosed inquiry slip ▲

New Processes & Materials

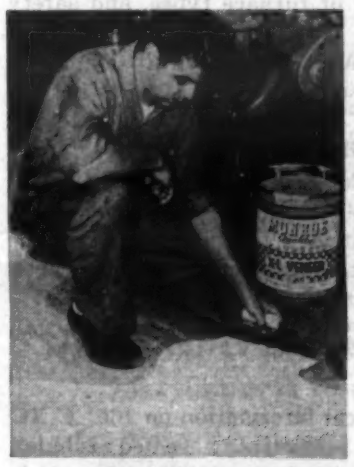
ELECTRIC CORDS & CABLES
diverse sizes have 1-12 conductors



Outer protecting jacket of Bronco 66 Certified line of portable electric cords and cables contains more than 67.32 per cent of new neoprene. This material offers protection against such industrial environmental factors as oil, sunlight, ozone, abrasion, flame, acids, solvents, heat and crushing. Cords and cables are vulcanized by the Synchro-Cure process which imparts smoothness and flexibility to the jacket. Product name, neoprene content, type, size, number of conductors and rated voltage markings are vulcanized into the outer jacket. Cords and cables, including control and welding cables, are made with single and up to 12 conductors in wide range of wire sizes. Made by **Western Insulated Wire Co.**, 2421 E. 30th St., Los Angeles 58, Calif.

▲ For more details circle NED-955 L5 on enclosed inquiry slip ▲

SAFETY FLOOR TOPPING
for steps, inclines and floors



Usable over concrete, wood, steel, tile, mastic or terrazzo surfaces, X-L Veneer safety floor topping provides skidproof surface, whether wet or dry. It is impervious to oil, grease, gasoline, alcohol, detergents and chemicals. Easily trowelled on as it comes from the container, this coating is available in tile red, green, light gray and dark gray. It is particularly applicable for stairways, ramps, cutwalks, shower rooms and running boards. Made by **Monroe Co.**, Dept. M-1, 10703 Quebec Ave., Cleveland 6, O.

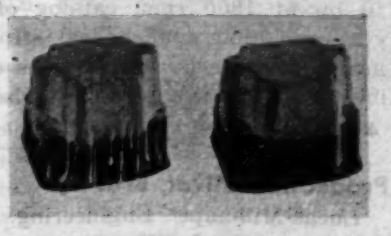
▲ For more details circle NED-956 L5 on enclosed inquiry slip ▲

PRINTED CIRCUIT VARNISH
seals against arc-producing moisture

Formulated as a protective insulating coating for modular electronic assemblies and printed circuits and their components, No. 642 printed circuit varnish can be baked or air-dried to a tough, resilient coating. It completely seals the laminate and component leads against arc-producing moisture. A 2½-mil coating of the water-white varnish withstands 1250 v, even after 72 hours exposure at 100 per cent relative humidity. Varnish will not support tracking, nor will it char. It will not age or discolor and can be thinned with xylol or its equivalent. Developed by **Insl-X Sales Co.**, Dept. I-11-3, 26 Rittenhouse Pl., Ardmore, Pa.

▲ For more details circle NED-957 L5 on enclosed inquiry slip ▲

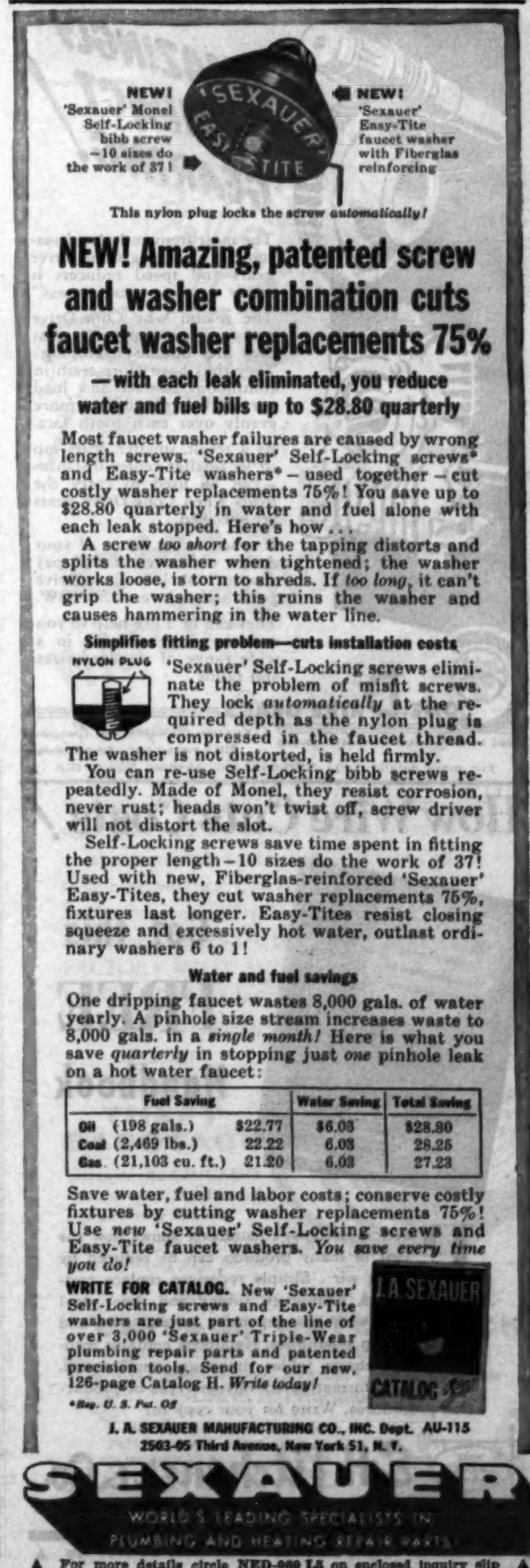
FOUNDRY CORE COATING
is carbon-free refractory type



Nondrip, carbon-free Red-Skin foundry refractory core coating will penetrate deep into cores to prevent metal penetration and, at the same time, deposit a uniform surface coating to prevent "burn-in" and sand sintering. Coating is recommended for steel, gray iron and nonferrous metals. Maximum fill is obtained on porous core areas. Red-Skin shown on right sample does not streak, tear-drop, run down or build up in fillets. It eliminates need for core scraping and is easy to mix. Made by **Frederic B. Stevens, Inc.**, 1802 Eighteenth St., Detroit 16, Mich.

▲ For more details circle NED-958 L5 on enclosed inquiry slip ▲

▲ For more details circle NED-959 L5 on enclosed inquiry slip ▲



▲ For more details circle NED-960 L5 on enclosed inquiry slip ▲

It's a superior waterproofing too

A special combination of asphalt and flat aluminum flakes provides sensational cooling and protective qualities. The asphalt penetrates, grips and weatherproofs . . . the aluminum flakes flow to the surface and flatten into an opaque, metallic shield that reflects heat, ultra-violet, even infra-red rays to preserve roofing and cool under roof area.

The liquid applies easily, as supplied in the container, by spray or brush. Each gallon guaranteed to contain at least 2 lbs. of aluminum pigment. ***Manufactured by Lewis Asphalt Engineering Corp., 30 Church St., New York 7, N. Y. Dept. 331***

50° Lower by Test
Heat lamp application shows 50° lower temperature under half of shingle coated with Karnak Aluminum-Asphalt Coating.

©L.A.E. Corp.

USE OTHER KARNAK PRODUCTS, TOO

▲ For more details circle NED-963 L5 on enclosed inquiry slip ▲

AMAZINGLY COMPACT GEARING!

The most frequently cited reason for specifying Cone-Drive gears and speed reducers is "their amazing compactness."

The reason why Cone-Drive gears are so compact is that they are 'double-enveloping'. They thus have more teeth in continuous contact and load per tooth is distributed more evenly over each tooth face.

As a result, smaller gears—up to ⅓ smaller center distances—can be used to carry the loads when Cone-Drive gears are specified.

If space saving is one of your design objectives, it will pay you to look into Cone-Drive gears and reducers . . . NOW.

They can be a big help to you and they are available in a wide range of standard sizes and ratios.

CONE-DRIVE GEARS
Division Michigan Tool Company
DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS
7171 E. Nevada Road • Detroit 12, Michigan

▲ For more details circle NED-964 L5 on enclosed inquiry slip ▲

How Wire Cuts Costs!

Get this FREE Handbook

Practical designer's handbook shows how the cost of many products can be reduced by using wire. Simple redesigns replace castings, forgings, stampings, tubing and sheet steel components with less expensive welded wire and wire-and-strip assemblies. Handbook contains technical data—charts, tables, drawings, specifications, etc.—plus information on various types of production procedures. Write for your copy to:

E.H. Titchener & Co.
WIRE GOODS
79 CLINTON ST. BINGHAMTON, N. Y.

▲ For more details circle NED-965 L5 on enclosed inquiry slip ▲

New Literature & Catalogs

Magnetic Pipeline Traps

Eriez Mfg. Co.—Permanent magnet Ferrotraps which assure product purity; reduce damage and maintenance to filters, mixers and pumps; and eliminate clog-ups are subject of 4-page illustrated bulletin B-605. These liquid-handling pipeline traps afford protection from fine iron and tramp iron contamination. Both standard and sanitary models are available for up to 4-in. pipe.

▲ For more details circle NED-968 L5 on enclosed inquiry slip ▲

Magnetic Sheet Pilers & Conveyors

Bucciconi Engineering Co.—Comparative figures taken from an extensive study of an installation of the Bucciconi System which employs magnetic conveyors and sheet pilers are given in illustrated bulletin. Basic unit of system is a magnetic conveyor rail in which the conveyor belts are sunk into the magnets. Sheets can be handled at speeds in excess of shear capacity.

▲ For more details circle NED-967 L5 on enclosed inquiry slip ▲

Industrial Furnaces

"Industrial Furnaces," third edition, volume II, is offered as an authoritative guide to the efficient operation of industrial furnaces. Most of the text has been rewritten by the author, W. Trinks, and a short section on safety measures has been added. Chapter headings include fuels and electricity, combustion devices and heating elements, control of furnace temperatures, control of furnace atmosphere, critical comparison of fuels and of furnace types, and safety measures. Price is $10. Published by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y.

▲ For more details circle NED-966 L5 on enclosed inquiry slip ▲

Seamless Welding Fittings

Babcock & Wilcox Co., Tubular Products Div.—Illustrated bulletin FB-500 on alloy, carbon and stainless seamless welding fittings for piping is the first of a series to deal with this complete new line. Types and sizes in various constructions are tabulated.

▲ For more details circle NED-969 L5 on enclosed inquiry slip ▲

Capacitors

Gudeman Co.—Technical information on 165° C XC plastic film dielectric hermetically sealed tubular capacitors is contained in 6-page engineering bulletin XC-201-4. Both tab construction and extended foil types are described.

▲ For more details circle NED-970 L5 on enclosed inquiry slip ▲

Flexible Metal Hose

Atlantic Metal Hose Co.—Corrugated flexible metal hose of annular and helical construction is subject of illustrated bulletin 20-E. Steel and bronze hose, with and without wire braid; couplings and complete assemblies are described. Tables list bending radii, bursting pressures and weights.

▲ For more details circle NED-971 L5 on enclosed inquiry slip ▲

Spray Paint Equipment

M & E Mfg. Co.—28-page illustrated catalog A-55 describes a complete line of automotive portable and specialty spray painting equipment. Data are given on guns, booths and accessories as well as on the newly included Micro-Spray line.

▲ For more details circle NED-972 L5 on enclosed inquiry slip ▲

Speed Reducers

Alling-Lander Co.—Input horsepower capacities at various speeds and reduction ratios for four series of worm gear speed reducers are tabulated in 8-page illustrated 1955 catalog. In addition to standard reducers with ratios up to 156:1 and capacities up to 10 hp at 1800 rpm; catalog offers line of custom gears including spur, helical, straight bevel and worm gears and wheels. Dimensions on five sizes of flexible couplings are presented also.

▲ For more details circle NED-973 L5 on enclosed inquiry slip ▲

Production Silver Brazing

Lucas-Milhaupt Engineering Co.—16-page illustrated guidebook "The Path to Better Brazing" explains the production advantages offered by the use of silver brazing preforms. Composition and properties of various brazing alloys are charted. Such details as round wire rings, packaging of preforms, stress relieving, wire size, edgewound and blanked washers, ordering data, importance of flux, selection of alloy and methods of application are covered.

▲ For more details circle NED-974 L5 on enclosed inquiry slip ▲

NEW FORD Solid Carbide End Mills

The new Ford line of solid carbide end mills includes styles with 2 or 4 flutes — straight or spiral. Square and ball end tools are available. All Ford mills are machine ground to give uniformly accurate flute form and a constant relief angle for longer life, smoother finish and faster cutting.

Write Today for new Bulletin No. 509.

Rotary FORD Tools
M. A. FORD MFG. CO., INC.
721 W. RIVER STREET, DAVENPORT, IOWA

▲ For more details circle NED-975 L5 on enclosed inquiry slip ▲

FSPA FAWICK STANDARDIZED PRESS APPLICATION

FOR PUNCH PRESS MODERNIZATION AND IMPROVED PRODUCTION

The compact, rugged, and simple-to-install FAWICK STANDARDIZED PRESS APPLICATION.

The FAWICK STANDARDIZED PRESS APPLICATION on a modern OBI Press.

The FAWICK STANDARDIZED PRESS APPLICATION, designed for OBI and Straight Side presses, provides advantages to Press Manufacturers and Press Operators alike.

The FSPA unit enables manufacturers to deliver their presses equipped with FAWICK Clutches and Brakes—insuring peak press efficiency and continuous "new clutch" performance through an exceptionally long operating life.

Press Operators can convert existing presses to safer, faster, and more accurate production with the FAWICK STANDARDIZED PRESS APPLICATION—providing low cost modernization for punch presses now equipped with clutches of older, less efficient design.

For complete information call or write the Home Office, 9919 Clinton Road, Cleveland 11, Ohio.

FAWICK AIRFLEX DIVISION
FAWICK CORPORATION
9919 CLINTON ROAD • CLEVELAND 11, OHIO

FAWICK Airflex
INDUSTRIAL CLUTCHES AND BRAKES

▲ For more details circle NED-976 L5 on enclosed inquiry slip ▲

NOW . . .
30 different sizes and shapes up to 3" diameter in stock. Use these plastic cable clips for safe, light weight, durable support of wiring, tubing, components.

Write WECKESSER COMPANY
5251 N. Avondale Ave. • Chicago 30, Ill. •

▲ For more details circle NED-977 L5 on enclosed inquiry slip ▲

Here's a better source for socket screws!

Take the gamble out of fastening—rely on Mac-it Socket Head Cap Screws and Hollow Set Screws!
Mac-it Socket Screws have
• High-grade alloy steel
• Heat treated for extra strength
• Accurate dimensions • Class 3 fit
Your local Mac-it distributor stocks all standard sizes and can handle your "special" problems quickly.

Mac-it Screw Division
STRONG, CARLISLE & HAMMOND COMPANY
CLEVELAND 13, OHIO
Mfd. by Mac-it Parts Co., Lancaster, Pa.

▲ For more details circle NED-978 L5 on enclosed inquiry slip ▲

Shown is Uplifter loading highway truck.

Revolvator Uplifters: 1000 lb. and 2000 lb. capacity. Also dual capacity hand-operated models.

YOU BENEFIT...
by Over 50 Years of experience.

Revolvator Uplifter Portable Elevators. Multiple use, multiple purpose Revolvator Uplifters, products of 50 years of engineering know-how, solve handling problems throughout all industry. Ideal for shop usage, Revolvator Uplifters also speed handling in the shipping department with equal efficiency. The Uplifter is ideal when no shipping dock is available. Electrically-powered Uplifter portable elevators are available in either "plug-in" or battery operated models. Today write for full information.

REVOLVATOR CO.
8732 Tonnele Ave., North Bergen, New Jersey

▲ For more details circle NED-979 L5 on enclosed inquiry slip ▲

New Literature & Catalogs

FIRE-RETARDANT PAINT
oil-base type in eight colors

Exceptional fire-retardant properties are formulated into UL-approved Firehold oil base paint, available in eight colors, plus white. It can be applied on exterior as well as interior painted or unpainted surfaces and has a low gloss finish. Paint is particularly suitable for wallboard or wood interior partitions, wood shingle roofs and in industrial plants where the hazard of fire is present. When wood painted with Firehold becomes hot from incipient fire, chemicals in the paint generate vapors that tend to blanket the surface and smother any flames that may have developed. If the heat becomes intense, other ingredients fuse together and form a nonburning crust that acts as a shield against destruction by fire. Demonstration sticks are available from the manufacturer, **Cheesman-Elliot Co.**, 639-647 Kent Ave., Brooklyn 11, N. Y.

▲ For more details circle NED-980 L5 on enclosed inquiry slip ▲

STRIPPER-SOLVENT
for cured epoxies and polyesters

Monastrip EP stripper-solvent makes it possible to salvage parts from defective units potted in cured epoxy or polyester resins. Material is noncorrosive and noninflammable and is easily applied by soaking the part in any closed, pressure-tight container to prevent evaporation of the volatile vapors. Reusable solvent is offered in 1, 5, 12, 30 and 55-gal containers. Made by **Mona Industries, Inc.**, Dept. NED, 65 E. 23rd St., Paterson 4, N. J.

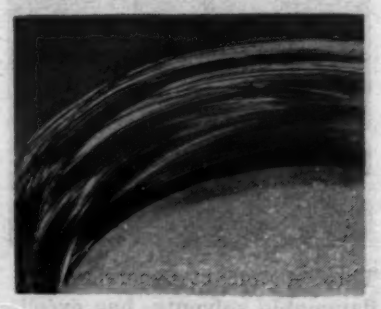
▲ For more details circle NED-981 L5 on enclosed inquiry slip ▲

HARDSURFACING PASTE
also imparts abrasion resistance

Usable on any metal having a melting point higher than 1850° F, Hi-C Ruf - Nek hardsurfacing paste provides a deposit with a hardness of 55 to 61 Rockwell C and also excellent abrasion resistance. Available in tubes or jars, paste can be applied directly to metal. On metal less than ¼-in. thick, heating can be with gas flame. With proper induction heating, any thickness of metal can be hardfaced. A permanent suspension of powdered hardfacing alloy in a water-base solution is applied up to ⅜-in. thick with a spatula, brush or from a tube. Heating the base metal up to the 1850° F fusion point of the paste causes it to fuse and bond to the base metal. Made by **Superweld Corp.**, 6841 Vineland Ave., North Hollywood, Calif.

▲ For more details circle NED-982 L5 on enclosed inquiry slip ▲

STAINLESS STEEL WIRE
has mirror-like finish



Lustrous, mirror-like finish of this stainless steel wire obviates need for subsequent finishing operations when used for such end products as radio antenna tips, safety pins, picnic utensils and toys. Its natural finish requires no plating or coating, but for very high luster where electropolishing is used, this finish substantially reduces time required for electropolishing. Mirror finish wire can be drawn from 0.030 to 0.090-in. and has a maximum tensile strength of 250,000 psi. It is offered in coiled or straight lengths. Made by **National-Standard Co.**, Niles 17, Mich.

▲ For more details circle NED-983 L5 on enclosed inquiry slip ▲

how do you handle it?

PUMP IT with a VIKING

Most of the nationally known companies pump many sticky liquids with P-O-S-I-T-I-V-E VIKING ROTARY PUMPS.

The Viking "gear-within-a-gear" action and port designs allow such material to readily enter the pump. The non-slip action of the gears forces the liquid out in a steady volume.

Capacities ¼ to 1050 GPM. 750 cataloged models. Thousands of special designs.

Investigate today the smooth, even flow of Vikings handling either viscous or thin liquids. To start, ask for bulletin series 555g.

VIKING PUMP COMPANY
Cedar Falls, Iowa, U.S.A. In Canada, it's "ROTO-KING" pumps
THE ORIGINAL "GEAR-WITHIN-A-GEAR" ROTARY PUMP

▲ For more details circle NED-984 L5 on enclosed inquiry slip ▲

● With the tamper-proof CHICAGO portable watchman's clock you get a definite, permanent record of your watchman's activities. That's why the simple, economical CHICAGO WATCHCLOCK System is approved by THE UNDERWRITERS' LABORATORIES and by THE FACTORY MUTUALS LABORATORIES for

Increased Protection Against
FIRE
THEFT
SABOTAGE

Users of the CHICAGO System earn **Reduced Insurance Rates**

The CHICAGO WATCHCLOCK System quickly pays for itself!

"The first—and still the first!"
CHICAGO WATCHCLOCK
DIV. GREAT LAKES INDUSTRIES, INC.
1522 South Wabash Avenue, Chicago 5, Illinois
Offices In Principal Cities

Write today for FREE FOLDER of illustrated details . . . tells why the CHICAGO WATCHCLOCK is in a class by itself . . . how the CHICAGO System can be installed in a few hours by any workman with no tools other than a screwdriver.

▲ For more details circle NED-985 L5 on enclosed inquiry slip ▲

BIN STUCK LATELY?

There are two ways to handle a stuck bin. You can bang it loose with a sledge hammer, and damage your equipment; or you can install Cleveland Vibrators and put an end to your problem. The first way is slow and costly. But the second way is efficient, fast, and inexpensive.

How about you! Are your schedules suffering from stuck bins? The low cost of Cleveland Vibrators will surprise you, and the results will definitely please you. Why not get the whole story with a two-cent post card.

Air or Electric

Portable or Permanent

Silent or Standard

THE CLEVELAND VIBRATOR CO.

2744 Clinton Avenue • Cleveland 13, Ohio

▲ For more details circle NED-986 L5 on enclosed inquiry slip ▲

TIME IS MONEY

BOOST YOUR PROFITS WITH DUAL ACTION

TWO SANDERS IN ONE!

Model DA Air.

Check these PROFIT POINTS:

- 3 to 5 times faster than other type sanders.
- A Rougher for heavy stock removal.
- A Finisher for fine work.
- Dual Action cuts abrasive cost up to 80%.
- Ideal for sanding, grinding, buffing, polishing jobs from Plexiglass to Castings.

AN *Easy* FOR EVERY JOB. DUAL-ACTION OR STRAIGHT LINE.

SEE YOUR JOBBER OR WRITE FOR LITERATURE

Model JR Air. Model DF Electric.

DETROIT SURFACING MACHINE CO.

1265 E. Eight Mile Rd., Detroit 20, Mich.

▲ For more details circle NED-987 L5 on enclosed inquiry slip ▲

MAXITORQ

OVERLOAD RELEASE CLUTCH

Protects High-Speed Machinery

Automatic overload release feature eliminates costly shut-downs by protecting machinery and products from damage due to accidental overloading of mechanism. Specifically recommended for applications where nature of overload may be a heavy shock, or suddenly-applied load substantially greater than normal driving load. Simple finger-tip adjustment. Six capacities, ¼ to 5 h.p. at 100 r.p.m. Send for bulletin.

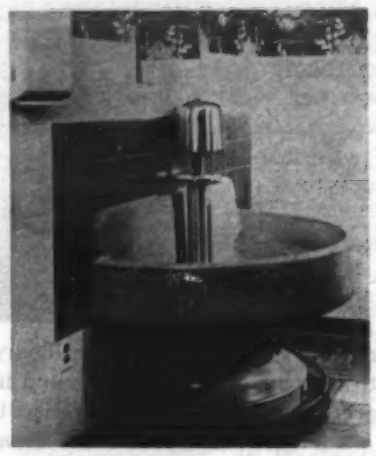
THE CARLYLE JOHNSON MACHINE COMPANY

DEPT. NE-11 MANCHESTER, CONNECTICUT

▲ For more details circle NED-988 L5 on enclosed inquiry slip ▲

New Processes & Materials

ALUMINUM WALL TILE has fused-on porcelain finish



Ceramic coating fired to an aluminum base at temperatures of 900 to 1000° F comprises Vikon porcelain-on-aluminum wall tile, developed for use in industrial wash rooms, lobbies, offices, corridors, laboratories and similar locations. The glass-hard finish is easily cleaned, is highly resistant to chemicals and is unaffected by cleaning agents. Tile can be cut and bent to fit and will not chip or craze. Weight with mastic is less than 18 oz per square foot. Tiles are available in eight decorator colors plus black and white. Made by **Vikon Tile Corp.**, Dept. N, Washington, N. J.

▲ For more details circle NED-989 L5 on enclosed inquiry slip ▲

ULTRA FINE FLAT WIRE 0.0007-in. thick, 0.003-in. wide

Flat wire as fine as 0.0007-in. thick by 0.003-in. wide is now being produced commercially. Diamond die drawing process used produces wire with better than mirror surface finish, uniform thickness and width, and with smooth, round edges. It starts with a thin flat strip which remains flat throughout the process. Wire can be produced from most ferrous and nonferrous alloys except those that are difficult to cold work. Sizes range from 0.019-in. wide and 0.010-in. thick to the aforementioned minimum size. If desired, wire can be cut to precise lengths, formed in desired shapes and heat treated to produce specific spring operating characteristics. Company will also draw wire from metal furnished by customer. Made by **Hamilton Watch Co.**, Allied Products Div., Dept. N, Lancaster, Pa.

▲ For more details circle NED-990 L5 on enclosed inquiry slip ▲

GLASS RELINING SERVICE for tanks, kettles and valves

Rapid and economical relining of glass-lined chemical equipment can be carried out with an acid and alkali resistant enamel developed by Keasbey Corp. Service is available to users of tanks, kettles, reactors, valves and all other types of chemical equipment. Service rendered by **General Ceramics Corp.**, Chemical Equipment Div., Dept. CE, Keasbey, N. J.

▲ For more details circle NED-991 L5 on enclosed inquiry slip ▲

SPRAY INSULATION COATING protects outdoor installations

Easily sprayed on with conventional roofer's or undercoater's spray equipment, Spray-Mastic asphaltic coating compound protects most insulations as well as metals and other building materials. This chemical dispersion-type coating contains no flammable solvents, has excellent adherance and can readily be built up to a ⅛-in. thickness. Sprayability is unaffected by temperature between 40 and 140° F variation. It will not break down or separate in below-zero temperatures, dries to the touch in 4 hours and remains pliable indefinitely. One gallon provides a dry coating 1/16-in. thick over area 20 ft square. Made by **Eagle-Picher Co.**, Dept. NED, 900 American Bldg., Cincinnati 1, O.

▲ For more details circle NED-992 L5 on enclosed inquiry slip ▲

EXPLOSION PROOF SOLENOIDS AND SOLENOID OPERATORS

FX-326 SOLENOID FX-300 LINE EXPLOSION PROOF SOLENOIDS

R2DX-326 RDX-300 LINE

The FX-300 line of explosion proof solenoids ranges in pull from 3 lbs. to 100 lbs. at 85% voltage and from 4.2 lbs. to 140 lbs. at 100% voltage. Stroke range is from 1.25" to 5". We also produce the FX-400 and FX-800 explosion proof solenoids.

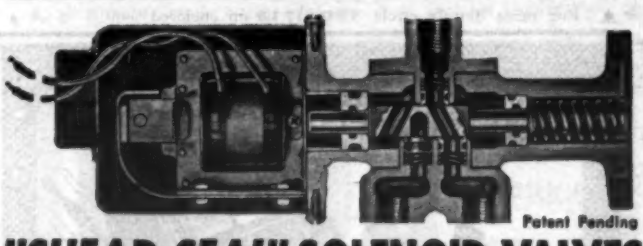
The RDX-300 line of explosion proof solenoid operators (reversing solenoids) is made from the F-300 line of solenoids and has the same range of pull and stroke as the FX-300 line of solenoids. The operators are made in the 2-point and 3-point types. We also produce the RDX-400 and RDX-800 lines of explosion proof operators.

See our catalog in Sweet's Catalog Service.

TROMBETTA SOLENOID CORP.

329 N. MILWAUKEE STREET • MILWAUKEE 2, WISCONSIN

▲ For more details circle NED-993 L5 on enclosed inquiry slip ▲



Patent Pending

"SHEAR-SEAL" SOLENOID VALVES

FOR 250 P.S.I. OIL SERVICE

Competitive in every respect! The patented "Shear-Seal" principle, that has changed the concepts of extreme pressure control, is now available in this popular edition of shut-off, Three-Way, and Four-Way Valves.

Leakproof closure is retained for unbelievably long periods without maintenance, because "Shear-Seals" improve with the lapping action of each valve operation.

Dirt or foreign matter can't harm the sealing quality, because the sealing surfaces remain in constant intimate contact, even during actuation, and flow is through the "Shear-Seal," never across sealing surfaces.

Long trouble free solenoid and valve performance are the end result of the many inherent "Shear-Seal" advantages, well worth your careful consideration.

Write for bulletin 5-S.

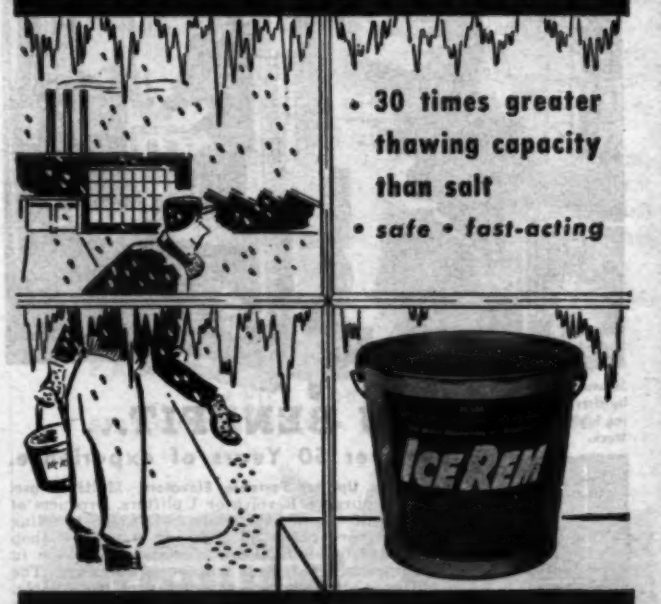
BARKSDALE VALVES

5125 ALCOA AVE., LOS ANGELES 58, CAL.

▲ For more details circle NED-994 L5 on enclosed inquiry slip ▲

MELTS SNOW! THAWS ICE! **ICE REM**

ice and snow melting chemical crystals



SPECO, Inc.

7308 ASSOCIATE AVE. • CLEVELAND 9, OHIO

"manufacturers of RUSTREM anti-rust paint"

▲ For more details circle NED-995 L5 on enclosed inquiry slip ▲

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SECOND FOLD TO THIS LINE

Circle the Numbers Below corresponding to items on which you want additional information. Your request will be sent promptly to the manufacturer. Please fill in the coupon completely. We'll pay the postage.

	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
1	51	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151	1201
2	52	102	152	202	252	302	352	402	452	502	552	602	652	702	752	802	852	902	952	1002	1052	1102	1152	1202
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6	56	106	156	206	256	306	356	406	456	506	556	606	656	706	756	806	856	906	956	1006	1056	1106	1156	1206
7	57	107	157	207	257	307	357	407	457	507	557	607	657	707	757	807	857	907	957	1007	1057	1107	1157	1207
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9	59	109	159	209	259	309	359	409	459	509	559	609	659	709	759	809	859	909	959	1009	1059	1109	1159	1209
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19	69	119	169	219	269	319	369	419	469	519	569	619	669	719	769	819	869	919	969	1019	1069	1119	1169	1219

FOLD BOTTOM EDGE TO THIS LINE

20	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220
21	71	121	171	221	271	321	371	421	471	521	571	621	671	721	771	821	871	921	971	1021	1071	1121	1171	1221
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35	85	135	185	235	285	335	385	435	485	535	585	635	685	735	785	835	885	935	985	1035	1085	1135	1185	1235
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49	99	149	199	249	299	349	399	449	499	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199	1249

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Check Invested Capital Rating of Your Company

- ☐ Over $1,000,000
- ☐ $500,000 to $1,000,000
- ☐ $200,000 to $500,000
- ☐ $75,000 to $200,000
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NEW EQUIPMENT DIGEST

A PENTON PUBLICATION

USE THIS SLIP FOR NOVEMBER, 1955 ISSUE ONLY

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Cleveland, Ohio

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Save Up To 60% On Gear Costs

More and more manufacturers are saving a lot of money by using WINZELER *laminated* Stamped Gears. Now, for many applications, single stampings can be laminated and indexed to produce wider faces, at savings up to 60%! Greater skill and accuracy in tooling, stamping and assembling assures smoother, quieter operation. Avoid assembly headaches, delays, downtime, waste. Get the *uniform* quality only WINZELER Stamped Gears can give!

***WRITE FOR FREE** folder describing our facilities, assemblies, and various Stamped Gears. Includes data and tables. Samples, ideas, quotations, for the asking.*

WINZELER Stamped Gears

WINZELER MANUFACTURING & TOOL CO.
1712 WEST ARCADE PLACE, CHICAGO 12, ILLINOIS

▲ For more details circle NED-996 L5 on enclosed inquiry slip ▲

INSIDE NEW SUPER AUTO-KLEAN. Line-type housing *(shown)* is only one of many arrangements available for this self-cleaning, micronic filter.

40-micron self-cleaning filter —Cuno's SUPER Auto-Klean

"Most compact micronic filter for its capacity!"

That's what filter engineers say about the new Cuno SUPER Auto-Klean. It's easy to build this latest filter development into engines, machine tools, and industrial machinery for finer filtration of fuel, lube and hydraulic oil, coolant and other liquids. Here's what it gives you:

1. **40-micron filtration** with self-cleaning filter—continuous cleaning with motor drive, intermittent, by turning handle.
2. **No cartridge changes.**
3. **Low pressure drop**—3 psi recommended drop, puts 30 gpm of 200 SSU oil through 8 by 2¾-inch element.
4. **Positive protection** against particles larger than 40 microns (actually 0.0015 in.). Filter can't rupture or channel.
5. **No duplex units needed.** Handles full flow all the time with no interruptions for cleaning.
6. **Standard housings** and types available. Can be easily adapted to new or existing designs with integral mounting or line-type housing.

Write for complete technical data on the new SUPER Auto-Klean filter for *your* design application. Ask for Catalog SAK-057. Cuno Engineering Corporation, 17-11 South Vine Street, Meriden, Connecticut. 57

CUNO ENGINEERED FILTRATION

AUTO-KLEAN (edge type) • MICRO-KLEAN (fibre cartridge)
FLO-KLEAN (wire-wound) • PORO-KLEAN (porous metal)

▲ For more details circle NED-997 L5 on enclosed inquiry slip ▲

New Literature & Catalogs

Machine Shop Equipment

Montgomery & Co.—32 pages of illustrated catalog P-8 contain data and specifications on extensive line of machine shop equipment and supplies. Included are surface and angle plates, milling machine arbors, arbor spacers and shims, shell end mill arbors, adaptors, expanding mandrels, lathe centers, collets and collet chucks, self-opening die heads, turrets, chucks, boring heads, calipers and gages, vises, machine tables and drill jig bushings.

▲ For more details circle NED-998 L5 on enclosed inquiry slip ▲

Liquid Coolers

Bell & Gossett Co.—Design features of Hydro-Flo package liquid coolers for use in space cooling systems, heating-cooling systems and industrial processes are described in 12-page illustrated bulletin HB-755. Typical system diagrams are included. Series of 4-page illustrated folders presents specifications, ratings and other data on units rated at 7½, 10, 15, 20, 25, 30, 40 and 50 tons.

▲ For more details circle NED-999 L5 on enclosed inquiry slip ▲

Perimeter Radiation Heating

John J. Nesbitt, Inc.—Sill-Line radiation, a wall-hung finned tube perimeter radiation for steam or hot water heating is subject of 20-page illustrated booklet 102. Available in five enclosure styles, the type E system covered is 5⅛ x 20 in. with finned tubing one or two rows high. Application data, accessories, capacities and selection data are included.

▲ For more details circle NED-1000 L5 on enclosed inquiry slip ▲

Ferrous Metallurgy Guide

Tempil Corp.—Principal characteristics of steels with carbon content ranging to 0.9-per cent are represented across a temperature range to 2900° F on this "Basic Guide to Ferrous Metallurgy." Important working zones, including preheating for welding, stress relieving, normalizing, annealing and forging, are shown. Common metallurgical terms are defined and a grain size diagram is included.

▲ For more details circle NED-1001 L5 on enclosed inquiry slip ▲

Fabricating Stainless Steel

"The Fabricator's Handbook" is a 162-page well-illustrated manual which covers in detail the fabrication of Rezistal stainless steels. Among subjects discussed are forming, machining, cutting, joining, heat treating, pickling and finishing. Diagrams are used to show many of the processes, and data are in table form. Reference section contains information on composition, characteristics, methods of identification, tolerances, gages, etc. Plastic-bound handbook is available by request on company letterhead from Crucible Steel Co. of America, Oliver Bldg., Pittsburgh 30, Pa.

▲ For more details circle NED-1002 L5 on enclosed inquiry slip ▲

Cold Roll Forming

Yoder Co.—Fourth edition of illustrated plastic-bound book "Cold Roll Forming" contains 88 pages and is intended to be a textbook on the function, scope and economies of cold roll forming, with only incidental mention of Yoder machines. End uses of products; their advantages and commercial possibilities; and auxiliary equipment for curving, coiling, ring-forming, notching, perforating, welding, embossing, automatic cut-off and other operations are covered.

▲ For more details circle NED-1003 L5 on enclosed inquiry slip ▲

Electro-Pneumatic Control

Leeds & Northrup Co.—How the series 60 current-adjusting type control and its associated converter for electro-pneumatic control operates is related in 8-page illustrated folder ND4(8). System, which includes a Speedomax G or H indicator/recorder, combines advantages of pneumatic valve operation with fast response of an electrical control system.

▲ For more details circle NED-1004 L5 on enclosed inquiry slip ▲

Water, Air & Oil Valves

Barksdale Valves—Shear-Seal valves for air, oil and water service are covered in series of three bulletins. A-5 covers manual and foot operated air valves, 0 to 4000 psi; W-5 covers manual water valves, 0 to 6000 psi; and O-5 includes manual oil valves, 0-6000 psi. Specifications of all models are given.

▲ For more details circle NED-1005 L5 on enclosed inquiry slip ▲

...through PHILLSOLV degreasing

Typhoon Air Conditioning Company, Inc., uses Phillsolv to get top production facilities. Phillsolv isn't just better cleaning, it gives removal of all grease, dirt, and oil, providing excellent paint adhesion surfaces.

Elimination of operations before and after cleaning really makes Typhoon's production picture bright. Immersion in hot and cold dips and hand wiping was previously used to remove grease, oil, and other impurities.

Typhoon combines the effect of all these operations in one degreasing function. Because of Phillsolv's more thorough washing action, more solvent is condensed on metal parts. Phillsolv's high (250°F) temperature dries the cabinets without any wiping.

Vapor degreasing is centered in one corner of the plant. Money is saved, production stepped up. Check into these savings today.

BOOSTS PRODUCTION RATES • MEETS SAFETY REQUIREMENTS • NON-CORROSIVE
FAST DRYING • AVOIDS "PARTIAL" CLEANING • LESS VAPOR LOSS

A COMPLETE LINE OF ENGINEERED VAPOR DEGREASERS AND POWER WASHERS

Phillips *MANUFACTURING COMPANY*
3463 W. TOUHY AVENUE, CHICAGO 45, ILLINOIS
"Distributed in Canada by Williams Tool Corporation of Canada, Ltd. under license".

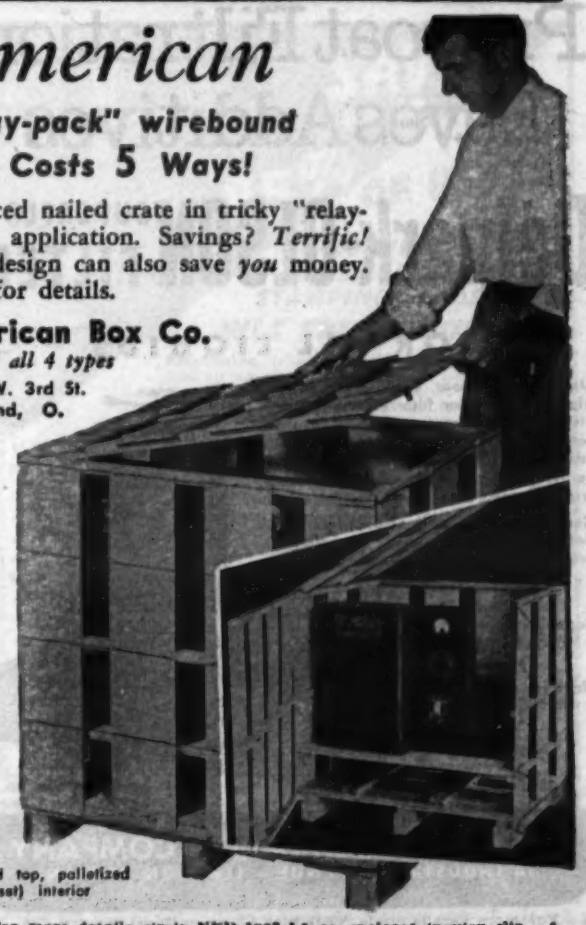
▲ For more details circle NED-1006 L5 on enclosed inquiry slip ▲

American

"relay-pack" wirebound Cuts Costs 5 Ways!

Replaced nailed crate in tricky "relay-pack" application. Savings? *Terrific!* This design can also save *you* money. Send for details.

American Box Co.
Mfr. of all 4 types
1917 W. 3rd St.
Cleveland, O.



All-bound top, palletized base (inset) interior fixtures.

▲ For more details circle NED-1007 L5 on enclosed inquiry slip ▲

NEW from GARLOCK . . .
MECHANIPAK* SEALS FOR PROCESS PUMPS

- One piece assembly
- Pre-set at factory
- Quick, easy installation
- Maintenance-free life

Get all the money saving facts about Garlock's new Unitary Mechanipak seals for process pumps. Write today for new folder AD-151.

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▲ For more details circle NED-1008 L5 on enclosed inquiry slip ▲

SAFE, EFFICIENT INDUSTRIAL CLEANING COSTS LESS---

WITH THE NEW M-M-A AIR-OPERATED VACUUM CLEANER!

Mfd. by R. P. Bennett Co.

NO MOVING PARTS!
COMPACT — POWERFUL!
LIGHT — PORTABLE!
EASY TO OPERATE!

M-M-A, Inc., Lancaster, Pa.

COMPLETE UNIT WITH 5" ALUMINUM NOZZLE, AND BAG $29.95 EACH

NO ELECTRICAL CONNECTIONS NECESSARY!

▲ For more details circle NED-1009 L5 on enclosed inquiry slip ▲

Precoat Filtration Saves Additives

Delpark-OLSON SUPERFLOW FILTER

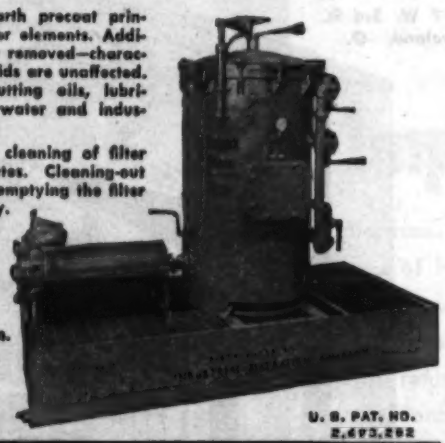
FOR ALL LIQUIDS

Uses diatomaceous earth precoat principle with tubular filter elements. Additives in fluids are not removed—characteristics of original fluids are unaffected. Ideal for coolant, cutting oils, lubricants, cooling tower water and industrial solvents, etc.

Completely automatic cleaning of filter done in 1 to 3 minutes. Cleaning-out process done without emptying the filter . . . is fast, clean, easy.

Capacities to 175 g.p.m.

Write for more complete information.



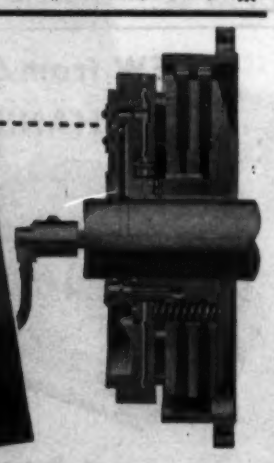
U. S. PAT. NO. 2,693,282

INDUSTRIAL FILTRATION COMPANY
14 INDUSTRIAL AVENUE · LEBANON, INDIANA

▲ For more details circle NED-1010 L5 on enclosed inquiry slip ▲

NEW

DODGE AIR-GRIP CLUTCH



—Amazing Sensitivity!

Less air is used to operate the Dodge Air-Grip. The result is a new sensitivity that enables the operator to "inch" the clutch, or to throw it into full engagement, as required. Quick release valves are built into the clutch itself as optional equipment. Air-Grip's unique design places the air seal disc at the end *farthest* from the pressure plates, which generate the heat. This, with automatic internal ventilation, insures cooler operation, longer life. WRITE for Bulletin.

DODGE MANUFACTURING CORPORATION, 2100 Union St., Mishawaka, Ind.

DODGE of Mishawaka, Ind.

▲ For more details circle NED-1011 L5 on enclosed inquiry slip ▲

New Literature & Catalogs

Hand Dryers

National Dryer Sales Corp.—How UL-approved National hand dryers save about $600 per unit per year in industrial washrooms is outlined in illustrated booklet. List included shows names and types of companies using the high efficiency units.

▲ For more details circle NED-1012 L5 on enclosed inquiry slip ▲

Grinding & Lapping Machines

Norton Co.—Photographs and specifications for Norton line of precision grinding and lapping machines are found in 32-page catalog 1843. Covered are cylindrical, cam, shape, crankpin, tool and cutter, universal, surface and special purpose grinders and seven lapping machines.

▲ For more details circle NED-1013 L5 on enclosed inquiry slip ▲

Recording Oscillograph

Consolidated Engineering Corp.—Alternating and direct current models are offered in type 5-116 recording oscillographs, subject of 12-page illustrated brochure 1521B. They feature daylight-loading magazines, ¼ to 100-ips record speed range, wide selection of galvanometers and shockmount base. Complete specifications are given.

▲ For more details circle NED-1014 L5 on enclosed inquiry slip ▲

Wire Rope Slings

Union Wire Rope Corp.—Heavy walled steel ferrule eye splice is featured on Tuffy wire rope slings described in illustrated 60-page handbook SL-No. 2. Sixteen factory-fitted slings and almost two dozen standard fittings for slings are described. Rigger's manual, chart of ratings and standard signals for directing crane operators are among the contents.

▲ For more details circle NED-1015 L5 on enclosed inquiry slip ▲

Bobbin Boards & Trucks

Sterling Engineering & Mfg. Co.—Boards, crates, trucks and racks for mounting, storage and transporting of various products wound on cones, tubes and bobbins are described in illustrated 4-page bulletin. Made of stainless steel, aluminum or cadmium plated steel, they can be made in any size to accommodate any number of units. Company offers standard products and will fabricate to order.

▲ For more details circle NED-1016 L5 on enclosed inquiry slip ▲

Metal-Cutting Band Saws

Wells Mfg. Corp.—Capacities from 3½ x 6 in. up to 12 x 16 in. are available in line of metal-cutting band saws described in illustrated 8-page catalog G-55. Automatic bar feed equipment, stock stands and accessories are detailed and specifications are given. Blade and speed selection chart for various materials is included.

▲ For more details circle NED-1017 L5 on enclosed inquiry slip ▲

Fixture Clamps & Details

Harco Engineering—Dimensional data on over 100 fixture clamps and 1000 fixture details in various styles and sizes are included in 16-page illustrated catalog. Covered are hand knob, acorn nut and quick-action cam clamps. Catalog lists locating pins, swivel shoes, half and quarter-turn screws and C-washers.

▲ For more details circle NED-1018 L5 on enclosed inquiry slip ▲

Chemical Equipment

General Ceramics Corp.—Chemical equipment using porcelain, stoneware, coatings, graphite and alumina in their construction for resistance to corrosion is detailed in 16-page illustrated bulletin CHE-R5. Physical properties and characteristics of each material are given. Equipment includes pipes and fittings, valves, centrifugal pumps, exhausters, towers, jars, tanks, kettles, filters, cooling coils, vacuum pumps and compressors, heaters and hydrochloric acid plants.

▲ For more details circle NED-1019 L5 on enclosed inquiry slip ▲

Industrial Radiography

Metal & Thermit Corp.—The new M. W. Kellogg Co. Kel-Ray projectors which utilize gamma rays for industrial radiography are the subject of 24-page illustrated bulletin. Cobalt 60, cesium 37 and iridium 192 are the three gamma ray sources used with this versatile radiographic device. Three models are available for pipe and field work; for pressure vessels, tanks and larger pipe; and for large vessels and nondestructive testing.

▲ For more details circle NED-1020 L5 on enclosed inquiry slip ▲

NEW WELDREEL ELECTRIC ARC CABLE REEL

Holds 100 feet of 2/O cable
Reduces cable replacement
Provides safer, cleaner working area
Locks at any length
Retracts cable when not in use
Can be mounted on stationary or portable equipment

See the Weldreels for electric cable and welding hose at your supply house—or write us for all the facts.

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P. O. BOX 698
EL DORADO, ARKANSAS

WELDREEL

▲ For more details circle NED-1021 L5 on enclosed inquiry slip ▲

5 ways better

WEBB STAINLESS WIRE

NEW improved analysis for production of springs and other products gives you . . .

1. More corrosion resistance
2. Better coiling properties
3. Ability to take sharp bends
4. Longer fatigue life in springs
5. Lower cost

SIZES: Round: .0025" to .312" diameter
Rectangular: up to 3/32" x ¼"
Square: .015" to .125"

If you use Type 302, you'll like Carpenter WEBB Blue Label Stainless Wire better.

Write for data sheet on this latest WEBB WIRE development.

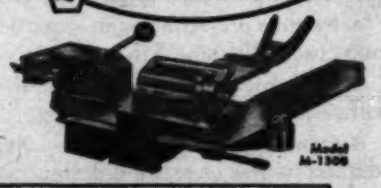
The Carpenter Steel Company
WEBB WIRE DIVISION
New Brunswick, New Jersey

▲ For more details circle NED-1022 L5 on enclosed inquiry slip ▲

Precision DUPLICATING on ANY Engine or Turret LATHE

Lehigh TRACER-TOOL
PROFILE-TRACING LATHE ATTACHMENT

Time and money saver for short or production runs —on any metal



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See our catalog and engineering sheets illustrating unlimited variety of turning, facing, boring, grinding and Bullard operations performed quickly and accurately with this low cost tool. No complicated hydraulic or electronic controls. Requires no permanent lathe alterations. Uses simple, easily made templates. Models to fit lathes 9" to 24" and larger.

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Lehigh, Inc.
1503 LEHIGH DRIVE, EASTON, PA.
Mfrs. of LEHIGH Air Valves, Air Cylinders, Air Hoists, Air Motors
West Coast Distributor: CAMPBELL CONTOUR ATTACHMENT CO. 1320 W. Esther Street, Long Beach, Cal.

▲ For more details circle NED-1023 L5 on enclosed inquiry slip ▲

The SCHRAMM "75"

A New Engine—A New Compressor
. . . NOT A SPEEDED-UP 60 .

- Designed for long continuous service with low maintenance
- Water cooled
- 12 volt push-button starting
- Delivers more than 75 c.f.m. @ 100 p.s.i.

SEND FOR CATALOG 5501-75

Schramm, Inc. 700 North Garfield Avenue West Chester Pennsylvania

MANUFACTURERS OF AIR COMPRESSORS

▲ For more details circle NED-1024 L5 on enclosed inquiry slip ▲

HERE'S WHAT WILLSON SUPER-TOUGH HATS HAVE THAT NO OTHER SAFETY HAT HAS!

It takes more than a strong, tough hat shell to provide full head protection—*both external and internal!* Only Willson Super-Tough® Hats and Caps give you that *extra* protection!

And that *extra* protection and wearer comfort is possible because of this unique, patented geodetic crown strap and pneumatic head band, developed by Cornell Aeronautical Laboratory, Inc.

Get the complete story on this new, revolutionary, scientific advance in head protection. Write for this new manual and catalog on head protection.

Super-Tough® hat cut away to show how the patented head gear fully cradles the head.

Patented pneumatic cushioned, all plastic head band providing scientific "metered air" shock absorption.

Geodetic crown strap provides stable support in all directions with no concentration of load in tie string on top of the head.

More than 300 Safety Products Bearing This Famous Trademark

WILLSON

Leaders in Research and Development of Safety Equipment Since 1870

WILLSON PRODUCTS, INC., 219 Washington St., Reading, Penna.

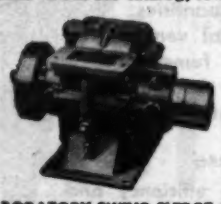
▲ For more details circle NED-1025 L5 on enclosed inquiry slip ▲

STURTEVANT Laboratory Equipment . . .

assures accurate samples . . . cuts laboratory sampling costs

Sturtevant laboratory equipment have all the features of full-sized production machines with extra accuracy and wider range of adjustment built-in. They are fast . . . provide true samples of every batch processed.

Investigate Sturtevant equipment for your laboratories. They will help you cut sampling costs . . . improve product quality . . . increase sales. Write for catalog, today.

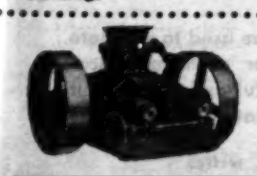


LABORATORY SWING-SLEDGE MILLS

Capable of reducing soft, moderately hard and tough or fibrous materials to any degree of fineness between 1 in. and 20 mesh. The patented "Open-Door" feature permits ready accessibility for cleaning.

LABORATORY CRUSHING ROLLS

First designed especially for laboratory sampling work, Sturtevant Crushing Rolls are used regularly in many plants where there are limited out-puts. Range of output for the 8 x 5 size is from ½ in. to 20 mesh—and for the 12 x 12 size from ¾ in. to 20 mesh.



LABORATORY JAW CRUSHERS

Special Roll Jaw action simplifies close regulation of the product with capacities varying from 300 to 400 lbs. per hour at finest settings, to 1000 or 2000 lbs. when opened for coarser work. Each part of the crusher is accessible for quick and easy cleaning.

LABORATORY SAMPLE GRINDER

Laboratory Sample Grinders are of the "Open-Door" disc type and are capable of very fine work, producing products as fine as 100 mesh (coarser if desired) when working on dry, friable, soft or moderately hard materials. Simply turn hand wheel to provide product regulation from 10 to 100 mesh.

Sturtevant Mill Company, 114 Clayton St., Boston 22, Mass.

▲ For more details circle NED-1026 L5 on enclosed inquiry slip ▲

New Processes & Materials

MOLDED RUBBER PARTS
produced to user's specification

Wide range of rubber compounds, either natural or synthetic, can be custom molded into parts of any type for any standard or special requirement, operating condition or service demand. Typical examples are air brake diaphragms, bumpers and snubbers, rubber wheels, gaskets, spring inserts, oil seals, rubber covered rolls and idlers, and radio and television parts. Rubber composition is determined by study of the product's end use. Tests are made for gravity, compression set, durability, scorch, elongation and shrinkage, hardness, tensile strength and modulus. Made by **Quality Rubber & Transmission Co.,** Dept. NDC, 2203 W. Chicago Ave., Chicago 22, Ill.

▲ For more details circle NED-1027 L5 on enclosed inquiry slip ▲

STAINLESS BRAZING ALLOY
is easy-to-apply paste mixture

Now offered in paste form is Nicrobraz brazing alloy recommended for uses involving stainless steels, nickel and cobalt-base alloys, as well as carbon steels and copper. It produces a heat and corrosion-resistant joint and provides a thin corrosion-resistant overlay in area around the joint. Paste is mixture of nickel-chrome-boron alloy Nicrobraz powder and cream-type flux which will hold powder in homogeneous suspension without separating. Three variations in flux metal ratio are available. Paste dilutes with water, brushes and spreads easily, and has excellent brazing characteristics when heated to range between 1850 and 1950° F. Made by **Wall Colmonoy Corp.,** Stainless Processing Div., 19399 John R St., Detroit 3, Mich.

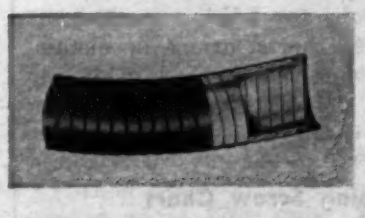
▲ For more details circle NED-1028 L5 on enclosed inquiry slip ▲

HEAT-EXPANDING GASKET
will not sag or shrink

Effective method of sealing hard-to-reach places, irregular areas or uneven gaps between joined parts is provided by this heat-expanding gasket. When heat is applied, such as in a paint bake oven, the compound expands to fill every contour of its confining area, up to precontrolled limits from 50 to 200 per cent. After expansion and vulcanization, the gasket retains its shape. There is no loss of adhesion or flexibility after the curing cycle at temperatures as low as 0° F. Heat-expanding compounds are available in ribbon, extruded bead or special shapes and cutouts. Made by **Presstite Engineering Co.,** Dept. NED, 3796 Chouteau Ave., St. Louis 10, Mo.

▲ For more details circle NED-1029 L5 on enclosed inquiry slip ▲

FLEXIBLE ELECTRICAL CONDUIT
has polyvinyl outer jacket

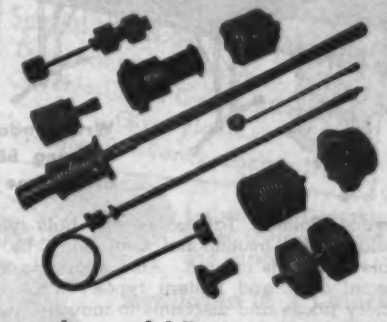


An impervious polyvinyl jacket over a flexible, galvanized steel core is the construction of Flex-Seal liquid - tight electrical conduit. This conduit protects wiring from oil, moisture, fumes and other deteriorating conditions. It will bend to very tight radius, allowing it to hug contours of machine or installation. Special tools are not required for cutting conduit, and connections require only standard fittings. Smooth interior facilitates wire pulling. Made by **Columbia Cable & Electric Corp.,** 257 Chestnut St., Brooklyn 8, N. Y.

▲ For more details circle NED-1030 L5 on enclosed inquiry slip ▲

NEW from FULTON SYLPHON BELLOWS HEADQUARTERS, U.S.A.

WAYS TO CUT COSTS



Fulton Sylphon designs, produces and delivers *complete* bellows *assemblies* or bellows *devices*. Many manufacturers find that this provides a lower unit cost than is possible when they purchase individual bellows and complete the assembly themselves. Fulton Sylphon's specialized engineering and modern production facilities make this possible. It costs you nothing to find out how much you might save . . . and the saving may be significant.

Robertshaw-Fulton CONTROLS COMPANY

For descriptive literature write to Dept. VY-1400

FULTON SYLPHON DIVISION • KNOXVILLE 1, TENN.

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SAVE UP TO 85% OF USUAL

***PRODUCTION COSTS ON SMALL QUANTITY STAMPING NEEDS WITH WLS SPEEDTOOLING**

Speedtooling is an advancement and improvement used for manufacturing stampings in small quantities. It eliminates most of the cost required for permanent dies. Finished parts are produced to tolerances as close as those found in tools costing ten times as much . . . yet are very inexpensive. Speedtooling is stored for your future use and maintained at peak operating condition. Use WLS Stampings for production quantities up to 100,000 parts per year when low cost, fast delivery, possible design changes for virtually nothing are important factors!

LOW die cost
FAST delivery

- Blanking
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- Extruding
- Stenciling
- Tapping
- Grinding
- Welding
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FREE

1. Write now for a free sample part with a cost summary.
2. Our free bulletin also illustrates 40 small stampings.
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*Actual cost of illustrated part produced for one of our hundreds of enthusiastic customers:
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Material .... .0088

WLS STAMPING COMPANY

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SP AIR and HYDRAULIC CYLINDERS

QUICK-CHANGE PACKING CARTRIDGE CUTS DOWNTIME

Removable packing cartridge is just one of many modern design features of S-P all-steel cylinders. Made in a wide range of mountings and bore sizes. Prompt deliveries. Send for catalog on Hydraulic Cylinders or Standard Air Cylinders or Heavy-Duty Air Cylinders. The S-P Manufacturing Corp., 12415 Euclid Avenue, Cleveland 6, Ohio.

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THE S-P MFG. CORP.—Cleveland
A Bassett Company
PRECISION PRODUCTS SINCE 1906
AIR AND HYDRAULIC CYLINDERS • POWER CHUCKS • ROTATING CYLINDERS
COLLET AND DRILL PRESS CHUCKS • AIR PISTONS
VALVES AND ACCESSORIES

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monroe FOLDING BANQUET TABLES

Write today for new catalog showing 58 models and sizes of Monroe Folding Tables.

Monroe Folding Tables, rigidly built yet very attractive, are designed for institutional use. May be used with or without table cloths, as desired. Also available in Formica and Ornacel special color and pattern types. Write for catalog with direct factory prices and discounts to industry, religious and educational institutions, clubs, lodges, etc.

MONROE TRUCKS for Folding Tables and Chairs

Transport and store your folding tables and chairs the easy, modern way on MONROE Trucks. Construction of Transport-Storage Trucks permits maneuverability in limited space. See Catalog.

THE MONROE CO. 950 CHURCH ST. **COLFAX, IOWA**

▲ For more details circle NED-1634 L5 on enclosed inquiry slip ▲

Another **NEW RELAY BY FILTORS, INC.**

LATCHING SUBMINIATURE

Magnetically Held—Electrically Reset

6 PDT

CONTACT RATING: 3 Amps. Resistive at 26.5 V.D.C. or 115 V.A.C.

SHOCK: 50 G

VIBRATION: 10 G from 5 to 500 CPS

AMBIENT TEMP.: -65° C to +125° C

COIL RESISTANCE: Latch-in Coil—200 ohms Reset Coil—375 ohms

DUTY CYCLE: Continuous (either coil)

COIL VOLTAGE: 26.5 V.D.C. (nominal)

PULL-IN TIME (LATCH-IN COIL) AT NOMINAL VOLTAGE: 10 millisec. max.

DROP-OUT TIME (RESET COIL) AT NOMINAL VOLTAGE: 10 millisec. max.

WEIGHT: 3.3 ounces

This relay remains in "energized" position indefinitely without consuming power. Its small size, light-weight and hermetically sealed enclosure make possible its use in airborne equipment.

DESIGNED TO MEET MIL-R-5757B AND MIL-R-25018 (USAF)

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FLASH-O-LENS Illuminated Magnifiers

In industrial inspection departments, on production lines, in foundries and laboratories, wherever close visual inspection is important, FLASH-O-LENS gets the job done better, faster. FLASH-O-LENS spots minute defects by spotlighting the area it magnifies.

Battery models, powered by standard flashlight cells, and AC-DC plug-in models are available with 5, 7, 20 or 40 power precision lenses to meet a wide range of inspection needs. Prices start from $10.95

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WRITE TODAY for literature showing applications, types, prices.

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▲ For more details circle NED-1636 L5 on enclosed inquiry slip ▲

New Literature & Catalogs

Automotive Parts & Accessories

164-page illustrated 1956 catalog features a full selection of speed equipment custom accessories and a standard line of new and replacement parts for new and older models of cars and trucks. Included is a 16-page section of the latest releases from automotive manufacturers. Catalog is available only to those requesting it on their company letterhead. Write to Warshawsky & Co., Dept. NED, 1900 S. State St., Chicago 16, Ill.

▲ For more details circle NED-1637 L5 on enclosed inquiry slip ▲

Meat Processing Equipment

Koch Supplies Inc.—Specifications, prices and other data on 2200 products are included in 88-page illustrated catalog No. 80 on equipment and supplies used in meat processing. Included are cutting, handling and processing equipment. A cross-reference index facilitates use.

▲ For more details circle NED-1638 L5 on enclosed inquiry slip ▲

Permanent Magnetic Drums

Homer Mfg. Co.—Applications of Homer permanent magnetic drums for automatically and economically removing tramp iron or ferrous material from gravity or power conveyor transported materials are described in 6-page illustrated bulletin MD-200. Diagrams, performance data and applications guides are included.

▲ For more details circle NED-1639 L5 on enclosed inquiry slip ▲

Die Sets

Producto Machine Co.—How to cut costs on steel specials and this company's production control system are among subject matter in first issue of "Die Set Digest." Issued periodically, this publication is available to users of die sets and related diemakers equipment.

▲ For more details circle NED-1640 L5 on enclosed inquiry slip ▲

Hydraulic Tables

Aldrich Pump Co.—"Handbook of Hydraulic Tables and Other Engineering Data" is a 28-page reference work for hydraulic engineers interested in pumping and piping problems. This latest edition is identified as bulletin No. 50.

▲ For more details circle NED-1641 L5 on enclosed inquiry slip ▲

Translucent Building Panels

Alsynite Co. of America—Flat panes and corrugated translucent Fiberglas panels for varied industrial uses are described in 4-page illustrated folder IC-95. Flat panes can be used for glazing and corrugated sheets for metal-covered building details and double-pitched skylights. Material properties are given.

▲ For more details circle NED-1642 L5 on enclosed inquiry slip ▲

Stainless Steel Fastenings

Star Stainless Screw Co.—"Off-the-shelf" stainless steel fastenings are completely covered in 24-page brochure 55-A. Line includes cap screws, nuts, washers, machine screws, sheet metal screws, wood screws and pipe fittings. Diagrams and size charts facilitate ordering. Special items such as piano hinges, wire baskets, shovels and scoops are also described. Special screw machine parts made to order are offered.

▲ For more details circle NED-1643 L5 on enclosed inquiry slip ▲

Self-Spraying Stencil Ink

Reynolds Ink, Inc.—Combination folder and color card describes advantages of stenciling with Reynolds ink which is sprayed on from a handy aerosol container. Typical applications for labeling, coding or marking cartons, fabricated parts, drums or metals with red, green, orange, blue, yellow, black, white or aluminum are shown.

▲ For more details circle NED-1644 L5 on enclosed inquiry slip ▲

Wood, Machine & Tapping Screw Chart

Southern Screw Co.—Pilot hole and shank clearance hole boring recommendations, plus how-to-measure length and diameter of wood, machine and tapping screws are contained in this technical screw chart. Hole size recommendations and thread dimensions for tapping screws are shown, as are thread dimensions for machine screws and stove bolt equivalents to machine screw sizes.

▲ For more details circle NED-1645 L5 on enclosed inquiry slip ▲

SPRACO NOZZLES

Write for NOZZLE CATALOG *to*

SPRAY ENGINEERING CO.

106 CENTRAL STREET • SOMERVILLE 45, MASS.

▲ For more details circle NED-1646 L5 on enclosed inquiry slip ▲

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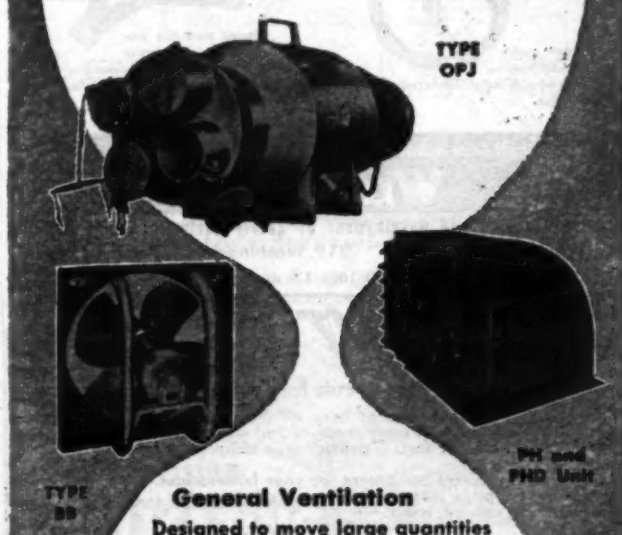
YOU CAN ADD Minutes TO EVERY Working Hour

Planned ventilation will increase production. Industrial surveys show that employees work better—faster and more carefully—when the air is free of smoke, fumes and heat. Let a Chelsea engineer show you how planned ventilation can increase your plant production—add minutes to every working hour in the day.



General Ventilation

Designed to move large quantities of air — for either general ventilation, or removal of steam, fumes and contaminated air. Direct or belt driven models — also for use under static pressure.

Type PH and PHD Penthouse

Streamlined — real ventilating efficiency and rugged service. Quiet and economical in operation. Interior fully insulated with sound deadening material — weather resistant exterior. Complete package, all assembled — belt driven or direct drive fan.

Type OPJ 'Octopus' Jr.

Portable exhauster-blower. Can be used to ventilate up to four separate, remote or confined spaces simultaneously. Versatile, powerful and mobile unit for a wide variety of 'spot' ventilating applications.

For more information, write:

CHELSEA

FAN & BLOWER CO., INC.

PLAINFIELD, NEW JERSEY

▲ For more details circle NED-1647 L5 on enclosed inquiry slip ▲

introducing...

PULMOSAN VIVID VIEW WIDE SCOPE GOGGLES

SAFETY GOGGLES

Newest advance in Eye Protection

- Vivid View design replaces old fashioned lenses with smart, modern wide scope shape. Gives wider viewing area, extra safety!
- Lighter weight, removable side shields, fully adjustable end piece plus newly designed bridge give greater comfort, stability and longer wear.
- This new design puts an end to excuses for not wearing safety glasses. Attractive, light weight, extra safety all assure complete employee cooperation, limits accidents, decreases "down-time" All lenses interchangeable.

also available

- Metal series with side shields
- Two models in Acetate series with and without side shields

NEVER AGAIN
ANY EXCUSE FOR GOING GOGGLE-LESS

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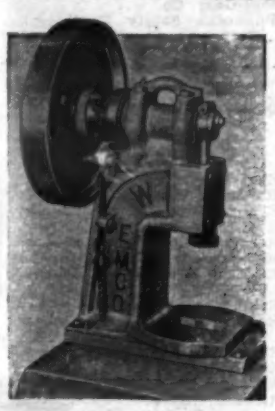
1807 Washington Ave., St. Louis, Mo.; CHestnut 1-7193

▲ For more details circle NED-1048 L5 on enclosed inquiry slip ▲



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EMCO "W" 5-ton bench type; also larger EMCO "X", 10-ton. Both sizes also stand-mounted. With or without motor drive.

Versatile EMCO presses excel for punching, forming, stenciling and riveting. Up to 300 operations per minute. "Big machine" speed, strength, rigidity, accuracy, endurance, safety. Compact, fool-proof; simple design—easy to operate. Thousands of EMCOS in money-making use testify to Klaas dependability since 1921. Two practical sizes.

ASK FOR BULLETIN "N-11".

UNUSUAL AIDS TO INDUSTRY

THE KLAAS MACHINE & MANUFACTURING CO.
4310 East 49th St., Cleveland 25, Ohio

KLAAS-BUILT EMCOS

▲ For more details circle NED-1049 L5 on enclosed inquiry slip ▲

here's what DIE CAST GRC ZINC ALLOY THREADED FASTENINGS mean to you...

in terms of a better product, in terms of a more economical product!

Gries' unique techniques make possible closer tolerances, cleaner threads, greater dependability, durability, die-cast uniformity. Mass production means lower costs!

NEW BULLETIN AVAILABLE

Fact-packed — shows how Gries ingenuity and money-saving methods can solve your fastenings problems.

Send today for your copy, prices and samples.

GRIES REPRODUCER CORP.

World's Foremost Producer of Small Die Castings
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▲ For more details circle NED-1050 L5 on enclosed inquiry slip ▲

New Processes & Materials

SELF-SPRAY ENAMELS for color coding of stock

Twenty-four colors are available in Plasti-Kote self-spray enamels which are quickly and easily sprayed on metal bar or rod ends to color code it for stock identification. A press of the finger releases a fine spray from the 12-oz aerosol container. Enamels can also be used for touch-up of finished products, maintenance of machinery and tool identification. Colors are also available to specifications. Made by **Plasti-Kote Inc.**, 9801 Harvard Ave., Cleveland 5, O.

▲ For more details circle NED-1051 L5 on enclosed inquiry slip ▲

ANTISEIZE COMPOUND for easy disassembly of nut, bolts

Easi-Release B, a high temperature antiseize compound, facilitates disassembly of steel or stainless steel nuts, bolts or any other thread-joined device. It is serviceable through temperatures up to 1800° F and leaves no carbon collection to freeze or bind metal joints. Galling is reduced to a minimum. Made by **O. Hommel Co.**, 209 Fourth Ave., Pittsburgh 30, Pa.

▲ For more details circle NED-1052 L5 on enclosed inquiry slip ▲

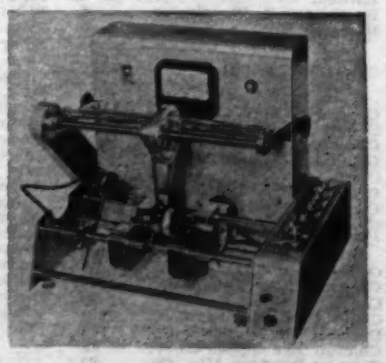
CEMENT KIT contains 12 commonly used types

Twelve of the most commonly used industrial and construction cements make up this combination cement package called the Sauereisen Du-All Kit. It

includes plastic porcelain, insulating paste, iron cement, acid tank sealer, acid resisting paint, waterproof glue, pipe joint compound, graphite paste, industrial furnace cement, electric resistor cement and sealing varnish. Kit also contains a chart which lists the various cements and the degree of their resistance to water, acids, alkali, oil, heat and electricity. Offered by **Sauereisen Cements Co.**, Dept. K, 3389 Sharpsburg Station, Pittsburgh 15, Pa.

▲ For more details circle NED-1053 L5 on enclosed inquiry slip ▲

BALANCING MACHINE with stroboscopic lamp, locates unbalance in rotors, armatures



Cylindrical bodies in the size range of rotors, armatures and fan units can be dynamically balanced with the aid of type 1250 precision electronic balancing machine. It measures unbalance in two planes of correction. Out-of-balance masses as low as 0.0013-per cent of total weight can be measured. Location and correction determination is usually made within 30 seconds.

Part or assembly is supported on two cradles and rotated up to 2700 rpm. Vibrations due to unbalanced masses generate alternating current proportional to the amplitude of the vibration of the work. This current is fed to a meter and amplified. Vibrations also actuate the stroboscopic lamp which angularly locates the unbalance. Parts up to 13 in. long, 5 in. wide and 10 lb in weight can be handled. Made by **Hickok Electrical Instrument Co.**, 10674 Dupont Ave., Cleveland 8, O.

▲ For more details circle NED-1054 L5 on enclosed inquiry slip ▲

Resurface Worn Broken Floors with MONOTRED New Plastic Flooring Material

Resists Oils, Greases, Water, Chemicals, Mold and Severe Wear

Available in 7 Colors

Monotred is a revolutionary new "non-brittle" plastic flooring material unequalled for patching or surfacing concrete or masonry floors, ramps, walks, stairs, roof decks; indoors or outdoors. Available in 7 colors. Supplied complete, ready for use. Moderately priced. Send for Bulletin 143 now.

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois

▲ For more details circle NED-1055 L5 on enclosed inquiry slip ▲

PIPE FLANGES are securely joined to sheet metal liner by ¼" brass rivets (arrows) at the Wilson Refrigeration, Inc., (Smyrna, Del.). Photo shows completed operation ... no after-finishing is necessary.

REFRIGERATION CONCERN REPORTS:

"FASTENING JOBS REQUIRE LESS EFFORT, LESS TIME with Du Pont Industrial Rivets"

Speed and convenience are two reasons why Wilson Refrigeration is so enthusiastic about the performance of Du Pont Industrial Rivets in the construction of its Bulk Milk Cooler.

Rivets save Wilson time—the tricky job of fastening two pipe flanges to a heavy sheet-metal liner is accomplished in just 1½ minutes. And Rivets save Wilson effort—since they are installed only from the head side, it's a one-man job.

Why not let these money-saving fasteners give your production a boost? They're a cinch to use: just insert in drilled holes, apply heated iron. Rivets expand in ½ second, get a firm grip on sheets.

Your jobber will be glad to tell you more about Du Pont Industrial Rivets. Ask him about them, or write: E. I. du Pont de Nemours & Co. (Inc.), Explosives Dept., Wilmington 98, Delaware.

DU PONT *Hi-Speed* INDUSTRIAL RIVETS

A Product of Du Pont Explosives Research

DU PONT

BETTER THINGS FOR BETTER LIVING ... THROUGH CHEMISTRY

▲ For more details circle NED-1056 L5 on enclosed inquiry slip ▲

Ostuco's "Single-Source Service"

All your tubing needs are filled on one order. This eliminates multiple instructions to different plants. OSTUCO seamless and electric-welded steel tubing meets your most exacting requirements for quality, shaping, fabrication, and finishing.

You can turn hidden costs into extra profit with special-quality OSTUCO Tubing. Discuss your particular problems with an OSTUCO Sales Engineer. Write direct, or contact your nearby sales office for complete information. For immediate action, submit your blueprints for quotation.

OSTUCO SHELBY, OHIO

OHIO SEAMLESS TUBE DIVISION
OF COPPERWELD STEEL COMPANY • SHELBY, OHIO

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A TYPE FOR EVERY USE!

Catawissa PERFECT SEAL *Unions*

for all temperatures for all pressures!

Catawissa Unions are HOT FORGED from solid rectangular steel bars to give sure-fire piping dependability! Exclusive Ball-to-Angle seat design gives A PERFECT SEAL EVEN WITH PIPE NOT IN ALIGNMENT!

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250 Mill St. • CATAWISSA, PA.

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REX NYLON TABLETOP

Long Life • Low Cost
Light Weight

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REX CHAIN BELT COMPANY

Chain Belt Company
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Milwaukee 1, Wisconsin

Please send my Nylon Table Top Bulletin 55-65.

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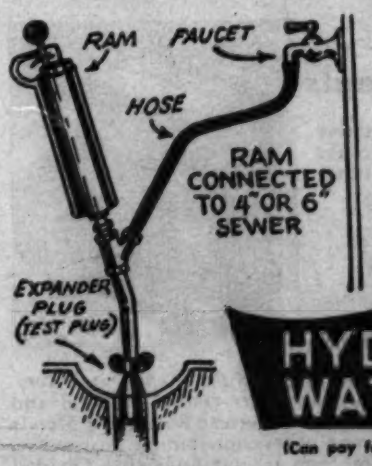

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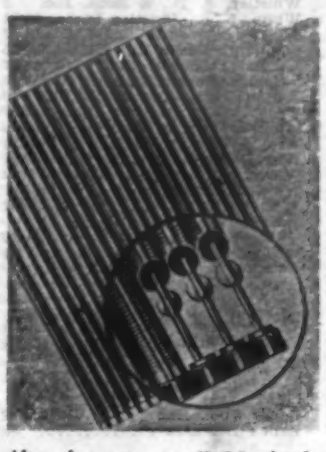

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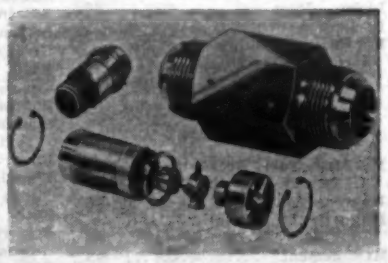

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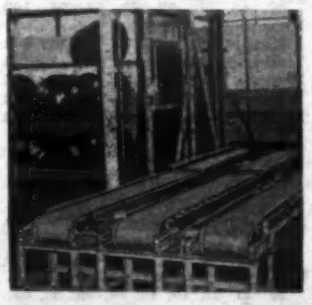

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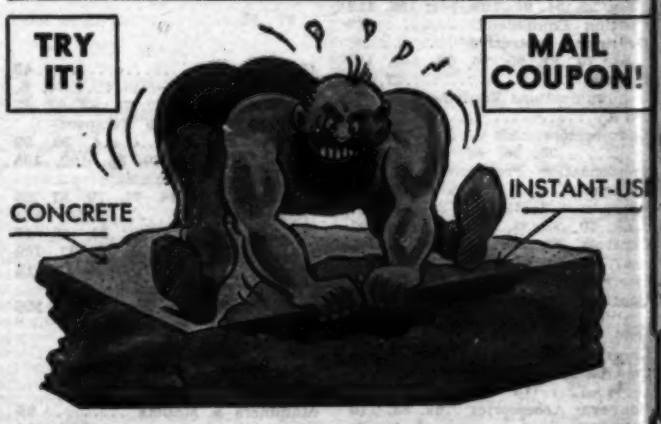

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FLEXROCK COMPANY (Offices in principal cities)
3603 Filbert St., Philadelphia 1, Pa.

Please send me complete INSTANT-USE information, details of TRIAL ORDER PLAN and Free INSTANT-USE BROCHURE—no obligation. (Clip and attach Coupon to Co. letterhead.)

Name .....
Title .....
Company .....
Address .....

For more details circle NED-1071 L5 on enclosed inquiry slip